POLARIS®

Sportsman® Forest 550
Sportsman® Forest 850

Owner's Manual
for Maintenance and Safety

Read this manual carefully. It contains important safety information.
This is an adult vehicle only.
Operation is prohibited for those under 16 years of age.

WELCOME

Thank you for purchasing a POLARIS vehicle, and welcome to our world-wide family of POLARIS enthusiasts. Be sure to visit us online at www.polaris.com for the latest news, new product introductions, upcoming events, career opportunities and more.

Here at POLARIS we proudly produce an exciting line of utility and recreational products.

- Snowmobiles
- All-terrain vehicles (ATVs)
- Low emission vehicles (LEVs)
- *RANGER*® utility vehicles
- RZR® sport vehicles
- VICTORY® motorcycles
- GEM® electric vehicles

Always follow the instructions and recommendations in this manual. The manual contains instructions for minor maintenance, but information about major repairs is outlined in the POLARIS Service Manual and should be performed only by a factory-certified Master Service Dealer® (MSD) technician. Please see your dealer for all of your service needs during (and after) the warranty period.

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The original instructions for this vehicle are in English. Other languages are provided as translations of the original instructions.

Printed in U.S.A.

SPORTSMAN Forest 550 / SPORTSMAN Forest 850 Owner's Manual

P/N 9924662

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INTRODUCTION

The following signal words and symbols appear throughout this manual and on your vehicle. Your safety is involved when these words and symbols are used. Become familiar with their meanings before reading the manual.

The safety alert symbol indicates a potential personal injury hazard.

DANGER

A DANGER indicates a hazardous situation that, if not avoided, will result in death or serious injury.

WARNING

A WARNING indicates a hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION

A CAUTION indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.

NOTICE

A NOTICE indicates a situation that could result in property damage.

The Prohibition Safety Sign indicates an action NOT to take in order to avoid a hazard.

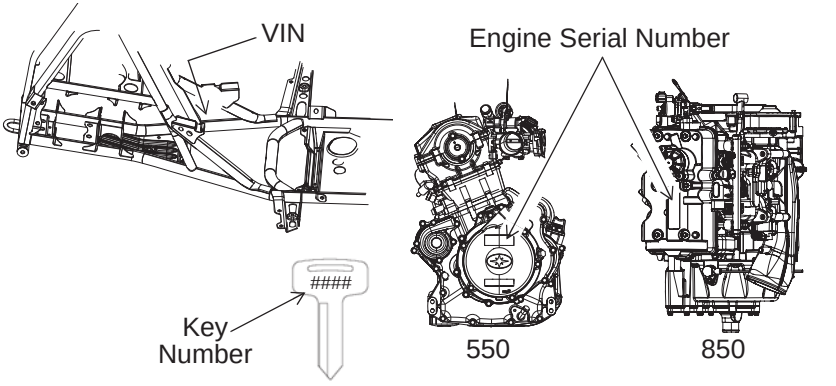
The Mandatory Action Sign indicates an action that NEEDS to be taken to avoid a hazard.

As the operator of the vehicle, you are responsible for your personal safety, the safety of others (including your passenger), and the protection of our environment. Read and understand your owner's manual, which includes valuable information about all aspects of your vehicle, including safe operating procedures.

Ride responsibly. Know all laws and regulations concerning the operation of this vehicle in your area.

Vehicle Identification Numbers

Record your vehicle's identification numbers and key number in the spaces provided. Remove the spare key and store it in a safe place. An ignition key can be duplicated only by ordering a POLARIS key blank (using your key number) and mating it with one of your existing keys. The ignition switch must be replaced if all keys are lost.



Vehicle Model Number: _____

Frame VIN: _____

Engine Serial Number: _____

Key Number: _____

SAFETY

⚠ WARNING

Failure to follow the warnings in this manual can result in serious injury or death. This POLARIS vehicle is not a toy and can be hazardous to operate. A collision or rollover can occur quickly, even during routine maneuvers, if you fail to take proper precautions.

Read and understand your owner's manual and all warnings before operating this POLARIS vehicle.

Safety Training

Never operate this vehicle without proper instruction. *Take a training course.*

For more information about safety, contact an authorized POLARIS dealer or visit the POLARIS web site at www.polarisindustries.com.

Age Restrictions

This vehicle is an ADULT VEHICLE ONLY. Operation is prohibited for anyone under 16 years of age.

Restrictions

This vehicle is approved for OFF-ROAD TOWING ONLY. Towing a trailer with this vehicle on public roads is prohibited. See your POLARIS dealer about configuring the vehicle to be certified to tow a trailer on-road.

Equipment Modifications

The warranty on your POLARIS vehicle may be terminated if any equipment has been added, or if any modifications have been made, that increase speed or power.

⚠

The addition of certain accessories, including (but not limited to) mowers, blades, tires, sprayers and large racks may change vehicle handling. Use only POLARIS-approved accessories. Know their function and effect on the vehicle.

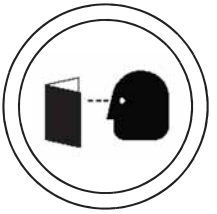
Rider Safety

⚠WARNING

Serious injury or death can result if you do not follow the instructions and procedures listed here and throughout this manual. See the OPERATION section of the owner's manual for proper operating procedures.

⚠

Read and understand all warnings, cautions and operating procedures in this manual and on the safety labels before operating the vehicle.



Never operate this vehicle without proper instruction. *Take a training course.* Beginners should receive training from a certified instructor.

Never permit others to operate the vehicle unless they have read and understand this manual and all product labels, and have completed a certified safety training course.

⚠

Never allow anyone under 16 years of age to operate this vehicle.

⚠

Gasoline is highly flammable and explosive under certain conditions.

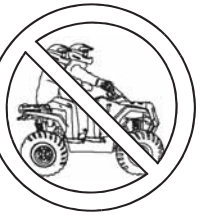
- Use extreme caution whenever handling gasoline.
- Refuel with the engine stopped. Refuel outdoors or in a well-ventilated area.
- Do not smoke or allow open flames or sparks in or near the area where refueling is performed or where gasoline is stored.
- Do not overfill the tank. Do not fill the tank neck.
- If gasoline spills on your skin or clothing, immediately wash it off with soap and water and change clothing.

⚠

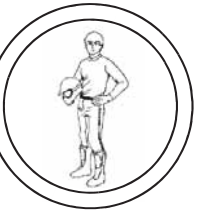
Engine exhaust contains poisonous carbon monoxide and can cause loss of consciousness resulting in severe injury or death. Never run an engine in an enclosed area.

SAFETY
Rider Safety

Never carry a passenger on this vehicle.

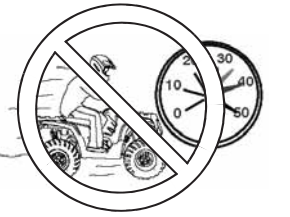


Always wear an approved helmet that fits properly. Wear eye protection (goggles or face shield), gloves, boots, long sleeves and long pants.



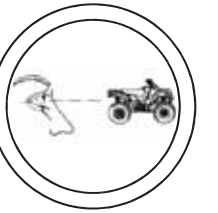
Never consume alcohol or drugs before or while operating this vehicle.

Never operate at excessive speeds. Travel and turn at speeds appropriate for the terrain, visibility, operating conditions and your experience.



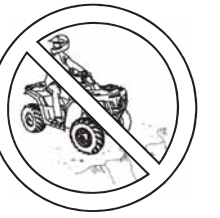
Rider Safety

Always inspect your vehicle before each use to verify that it's in safe operating condition. See page 44. Follow the inspection and maintenance procedures outlined in this manual.



Keep both hands on the handlebars. Keep both feet on the footrests.

Always travel slowly when operating on unfamiliar terrain. Use extra caution.



Always follow the procedures outlined in this manual for turning. See page 47.

Never turn sharply at excessive speeds, which can lead to vehicle overturn.

If the vehicle has been involved in an accident, always have an authorized POLARIS dealer inspect the entire vehicle for possible damage, including (but not limited to) brake, throttle and steering systems.

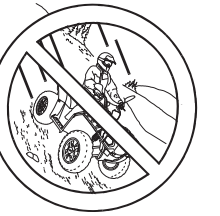
SAFETY
Rider Safety

Never attempt jumps or other stunts.

Always follow the procedures outlined in this manual for driving on hills. See page 52. Never operate on hills too steep for the vehicle or for your abilities. Practice on smaller hills before attempting larger hills. Avoid climbing hills steeper than 25°.

Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill.

Always follow the procedures outlined in this manual for driving downhill and for braking on hills. See page 55.

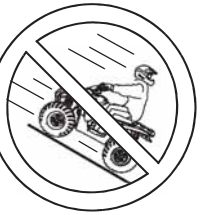


Always follow the procedures outlined in this manual for crossing the side of a hill. See page 54.

Never attempt to turn the vehicle around on any hill until you've mastered (on level ground) the turning technique outlined in this manual. See page 56.

Rider Safety

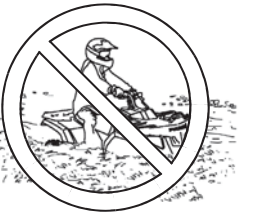
Always follow the procedures outlined in this manual for braking if you stall or roll backwards while climbing a hill. Never back down a hill. See page 53.



Always follow the procedures outlined in this manual for operating over obstacles. See page 50.

Always follow the procedures outlined in this manual for operating on slippery or loose surfaces. Use extra caution. Always avoid skidding or sliding. See page 48.

Always follow the procedures outlined in this manual for driving through water. Never drive through deep or fast-flowing water. See page 49.



Always follow the procedures outlined in this manual for driving in reverse. See page 51.

SAFETY
Rider Safety

Always use the size and type of tires specified for your vehicle. Maintain the proper tire pressure.

Never modify this vehicle through improper installation or use of accessories.

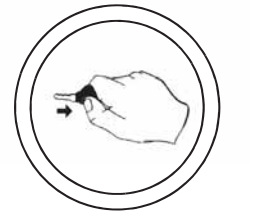
Never exceed the stated load capacity for your vehicle. Cargo must be properly distributed and securely attached. Reduce speed and follow the instructions in this manual for carrying cargo or towing. Allow a greater distance for braking.

Never operate the vehicle on a frozen body of water unless you have independently verified that the ice is sufficiently thick to support the weight and moving force of the vehicle, you and your cargo, together with any other vehicles in your party.

Operating on paved surfaces may affect the handling and control of the vehicle and could result in loss of control. Avoid sudden turns or swift movement of the handlebars.

Rider Safety

Always remove the ignition key when the vehicle is not in use to prevent unauthorized use or accidental starting.



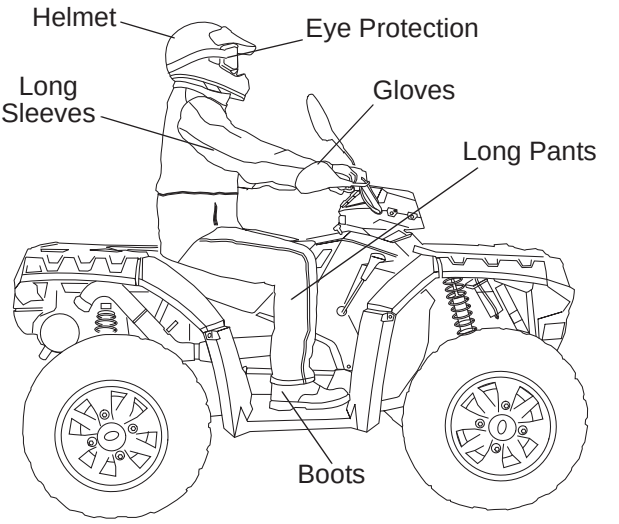
Always unlock the steering before starting the engine. See page 26.

Hot components can cause serious burns and fire. Do not touch hot exhaust system components. Always keep combustible materials away from the exhaust system.

For more information about safety, contact an authorized POLARIS dealer or visit the POLARIS web site at www.polarisindustries.com.

SAFETY
Safe Riding Gear

Always wear protective clothing to reduce the chance of injury.

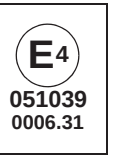


Helmet

Always wear a helmet that meets or exceeds established safety standards.

Approved helmets in the USA and Canada bear a U.S. Department of Transportation (DOT) label.

Approved helmets in Europe, Asia and Oceania bear the ECE 22.05 label. The ECE mark consists of a circle surrounding the letter E, followed by the distinguishing number of the country which has granted approval. The approval number and serial number will also be displayed on the label.



Safe Riding Gear

Eye Protection

Do not depend on eyeglasses or sunglasses for eye protection. Whenever riding a POLARIS vehicle, always wear shatterproof goggles or use a shatterproof helmet face shield. POLARIS recommends wearing approved Personal Protective Equipment (PPE) bearing markings such as VESC 8, V-8, Z87.1, or CE. Make sure protective eye wear is kept clean.

Gloves

Off-road style gloves with knuckle pads are the best for comfort and protection.

Boots

The best footwear is a pair of sturdy over-the-calf boots with low heels.

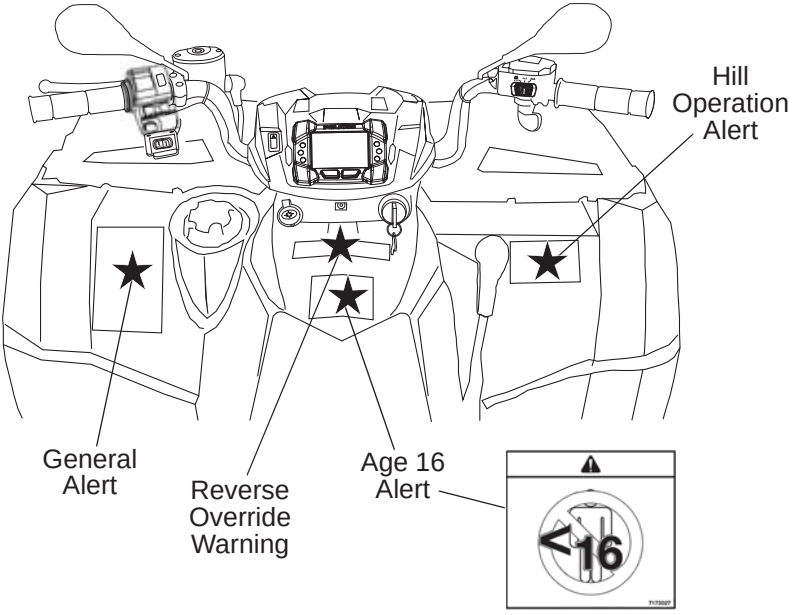
Clothing

Always wear long sleeves and long pants to protect arms and legs. Riding pants with kneepads and a jersey with shoulder pads provide the best protection.

SAFETY
Safety Labels and Locations

Warning labels have been placed on the vehicle for your protection. Read and follow the instructions on each label carefully. If a label becomes illegible or comes off, contact your POLARIS dealer to purchase a replacement. Replacement safety labels are provided by POLARIS at no charge. The part number is printed on the label.

The following pages repeat the information found on each label.



Safety Labels and Locations

General Alert (Multi-Lingual)

Before you operate this vehicle, read the owner's manual.

7173025

Reverse Override Warning/4X4 Caution

WARNING

Improper use of the override button can lead to loss of control resulting in severe injury or death. Do not activate override while throttle is engaged. Always apply throttle gradually, while in reverse.

CAUTION

Do not push switch to engage 4X4 (AWD) if the rear wheels are spinning. This may cause severe drive shaft and clutch damage.

7175512

Hill Operation Alert

- Never operate this vehicle on HILLS steeper than 25 degrees ∠ 25°.
- To prevent flip-over on hilly terrain, when going up or down, use throttle and brakes gradually.

7173026

SAFETY
Safety Labels and Locations

“No Passenger” Warning

WARNING

NEVER ride as a passenger.

Passengers can cause a loss of control, resulting in SEVERE INJURY or DEATH.

7175378

Tire Pressure/Load Alert

TIRE PRESSURE IN PSI (KPa): FRONT: 7.0 (48.3) REAR: 7.0 (48.3)

MAXIMUM WEIGHT CAPACITY 575 lbs. (261 kg)

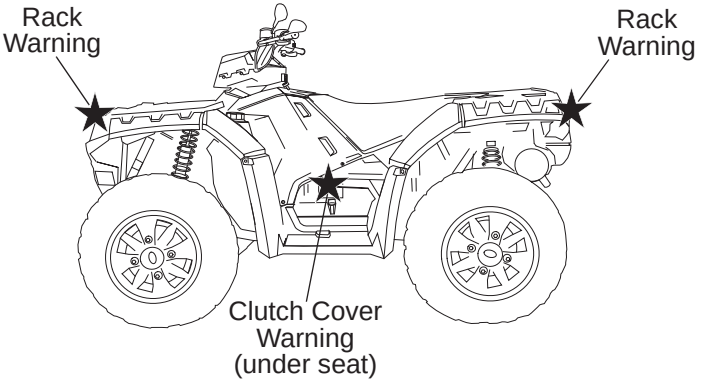
INCLUDES WEIGHT OF OPERATOR, PASSENGER, CARGO AND ACCESSORIES.

NEVER exceed 50 MPH (80 km/h) when rear cargo loads are above 75 lbs. (34 kg) and/or front cargo loads are above 37 lbs. (17 kg).

NEVER exceed 10 MPH (16 km/h) when rear cargo loads are above 200 lbs. (91 kg) and/or front cargo loads are above 100 lbs. (45 kg).

7177981

Safety Labels and Locations



Clutch Cover Alert

7175826

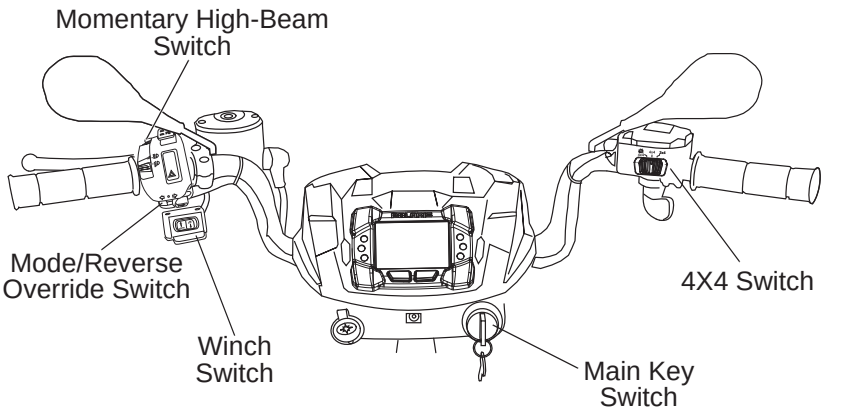
Rack Warning, Front and Rear

WARNING

- DO NOT TOW FROM RACK OR BUMPER. Vehicle damage or tipover may result causing severe injury or death. Tow only from tow hooks or hitch.
- Max. Rack Loads: Front 120 lbs. (54 kg) Rear 240 lbs. (109 kg)

7175448

FEATURES AND CONTROLS
Switches



Mode/Reverse Override Switch

This vehicle is equipped with a reverse speed limiter system. To gain additional wheel speed while backing, release the throttle and depress the override switch.

⚠

Pressing the override switch while the throttle is open can cause loss of control, which may result in serious injury or death. Always release the throttle before pressing the override switch.

The reverse override switch also acts as a MODE button when held down for approximately one half second. The transmission cannot be in reverse when using the override switch as a MODE button.

4X4 Switch

Use the 4X4 switch to engage ADC 4X4, 4X4 or 2X4. See page 30. The vehicle automatically engages 4X4 when operating in reverse if the switch is set to either 4X4 position.

Momentary High Beam Switch

Press this switch with your left forefinger to activate the headlight high beam. The lights will return to low beam when the switch is released.

Winch Switch

See page 61 for winch information.

Switches

Main Key Switch

End all electrical power to the vehicle.

LIGHTS ON position turns the headlights on.

Start the engine. The headlights are not on in this position.

After starting the engine, release the key switch to the *POSITION LIGHTS ON* position.

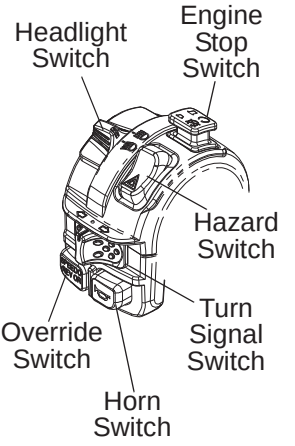
See page 45 for starting procedures.

Engine Stop Switch

The engine will not start or run when the switch is in the OFF position.

OFF

RUN



Headlight Switch

The lights do not operate unless the main key switch is on and the engine stop switch is in the RUN position.

High Beam

Low Beam

Turn Signal Switch

Push the toggle switch either left or right to activate the corresponding turn signal light. The indicator on the pod will also flash. Return the toggle to the center position to end the signal.

Horn Switch

Press the horn switch to sound the horn.

Hazard Warning Switch

Push the hazard warning switch to cause all turn signal lights to flash simultaneously. Use this feature to alert others of an emergency or other situation requiring caution.

FEATURES AND CONTROLS

Mirrors

Use the mirrors to assist in traffic maneuvers. Always check and adjust the mirrors before driving.

Throttle Lever

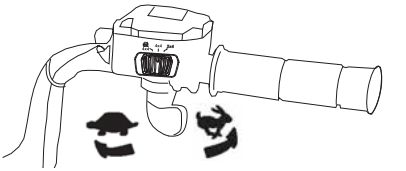
⚠

Failure to check or maintain proper operation of the throttle system can result in an accident if the throttle lever sticks during operation. Check the lever for proper operation before starting the engine. Check occasionally during operation.

Do not start or operate the vehicle with sticking or improperly operating throttle controls. Contact your dealer for repair if throttle problems arise.

Press the throttle lever to increase engine speed and vehicle movement.

Release the lever to reduce engine speed and vehicle movement.



Throttle Release Switch

The throttle release switch causes the engine to stop if the throttle cable sticks in an open position when the operator releases the throttle lever.

⚠

The throttle release switch stops the engine in the event of a throttle system malfunction. Do not modify the throttle release switch or replace it with other throttle mechanisms.

Brakes

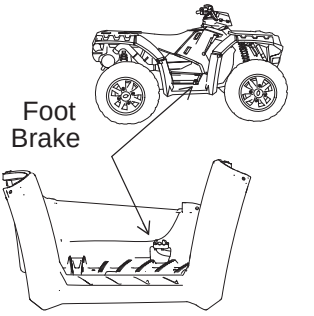
Aggressively applying the brakes when backing down a hill may cause rear tipover. Aggressively applying the brakes while moving forward may cause the rear wheels to skid and result in loss of control.

Read this owner's manual and understand the operation of all brake systems on this vehicle. Always use caution whenever applying the brakes.

Foot Brake

The all-wheel foot brake is located on the right footrest. The foot brake operates both front and rear brakes. Press the brake pedal down with your foot to apply the all-wheel brakes.

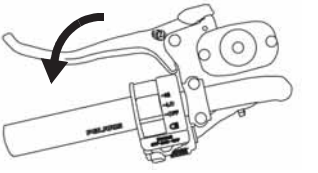
If the rear wheels begin to skid or slide while using the foot brake, reduce brake pressure.



Hand Brake Lever

The hand brake operates both front and rear brakes. Squeeze the brake lever toward the handlebar to apply the all-wheel brakes.

If the rear wheels begin to skid or slide while using the brake, reduce lever pressure.

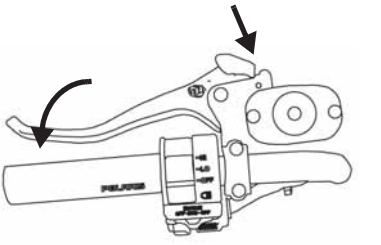


Operating the vehicle with a spongy brake lever can result in loss of braking, which could cause an accident. Never operate the vehicle with a spongy-feeling brake lever. Always contact your dealer for service before operating the vehicle.

FEATURES AND CONTROLS

Brakes

Parking Brake



1. Place the transmission in PARK.
2. Squeeze and release the brake lever two or three times, then squeeze and hold.
3. Push the parking brake lock forward to engage the lock.
4. Release the brake lever.
5. To release the parking brake lock, squeeze and release the brake lever.

⚠

Operating the vehicle while the parking brake is engaged could result in an accident and serious injury or death. Always release the parking brake lock before operating.

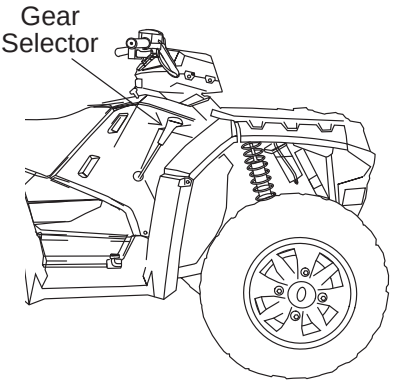
Electronic Power Steering (EPS)

Electronic power steering engages when the ignition key is turned to the ON position. EPS remains engaged whether the vehicle is moving or idle. See page 33 for EPS Warning Indicator information.

Automatic Transmission Gear Selector

The transmission gear selector is located on the right side of the vehicle.

H: High Gear
L: Low Gear
N: Neutral
R: Reverse
P: Park



Stop the vehicle, release the throttle and move the shift lever to the desired gear. See your dealer if you experience any shifting problems.

NOTICE: Shifting gears with the engine speed above idle or while the vehicle is moving could cause transmission damage.

Whenever the vehicle is left unattended, always place the transmission in PARK. The transmission is locked when it's in PARK.

Belt Life

To extend belt life, use low forward gear when pulling a heavy load at less than 11 km/h for extended periods and when operating uphill at a slow speed.

FEATURES AND CONTROLS

Steering Lock

Lock the steering to prevent unauthorized use or theft of the vehicle.

1. Turn the handlebars to the full left position.

Tip: The handlebars may also be locked in the full right position.

2. Insert the steering lock key and turn it clockwise.
3. Remove the key.

Tip: Place the steering lock keys in a safe place. The lock must be replaced if the keys are lost.

4. Reverse the procedure to unlock the steering.

⚠

The handlebars are locked in the fully turned position when the steering is locked. Always unlock the steering before starting the engine.

Fuel Tank

Always refuel with the engine stopped, and outdoors or in a well ventilated area. Refuel on a level surface.

Remove the fuel tank cap and add fuel. Use either leaded or unleaded gasoline with a minimum pump octane number of 87=(R+ M/2) octane. *Do not use fuel with ethanol content greater than 10 percent, such as E-85 fuel.*

The fuel tank is designed to allow for the normal expansion of fuel. Do not overfill. Do not fill the tank neck.

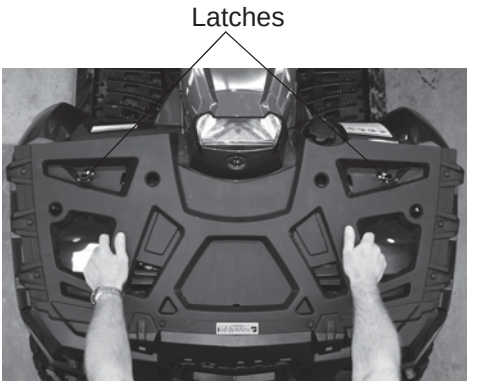
Extreme Use 30 AH Battery

If your factory-installed 18 AH battery cannot maintain a charge because of operation in extreme cold or with multiple electrical accessories, please see your POLARIS dealer to purchase a 30 AH battery.

1. Fully charge the new battery before installing it. See page 118.
2. To install the 30 AH battery, remove the 18 AH battery. See page 115.
3. Remove the plastic spacer at the bottom of the battery compartment. Save the spacer for future use.
4. Install the new battery. See page 116.

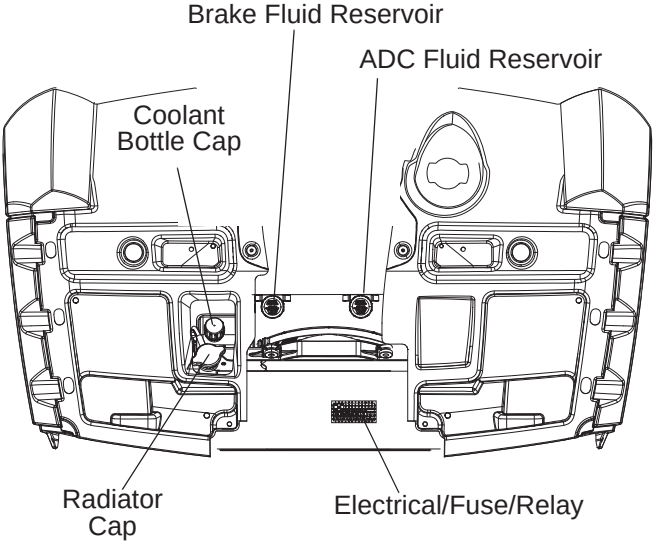
Front Rack/Compartment

Release the front rack latches and remove the rack to gain access to the front compartment. To reinstall the rack, hold the rack as shown in the illustration. Position the front edge in the tabs, then push the rack downward and secure the latches.



Access the following components in the front compartment:

- Radiator cap
- Foot brake fluid reservoir
- ADC fluid reservoir
- Coolant recovery bottle cap
- Electrical/fuse/relay components

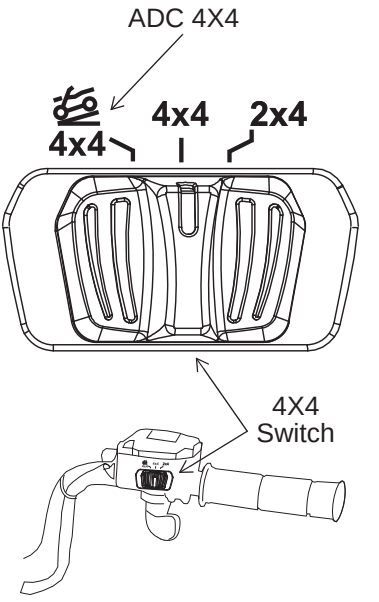


FEATURES AND CONTROLS
All Wheel Drive System

The All Wheel Drive system is controlled by the 4X4 switch.

ADC 4X4 Mode

When the switch is on ADC 4X4, the ADC system allows engine braking to all four wheels when the vehicle descends a hill or incline. Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill. See page 30.



4X4 Mode

When the switch is on 4X4, the vehicle is in 4X4, and the 4X4 indicator icon in the instrument cluster display will be visible.

When in 4X4, the demand drive unit will automatically engage any time the rear wheels lose traction (in forward or reverse). When the rear wheels regain traction, the demand drive unit will automatically disengage.

There is no limit to the length of time the vehicle may remain in 4X4. The vehicle automatically engages 4X4 when operating in reverse if the switch is set to either 4X4 position.

2X4 Mode

When the switch is on 2X4, the vehicle is in two-wheel drive at all times.

All Wheel Drive System

Engaging 4X4

The 4X4 switch may be turned on or off while the vehicle is moving. Initially, the vehicle's electronic system will not enable 4X4 until the engine RPM is below 3100. Once enabled, 4X4 remains enabled until the 4X4 switch is turned off. If the switch is turned off while the demand drive unit is moving, it will not disengage until the rear wheels regain traction.

Engage the 4X4 switch before getting into conditions where front wheel drive may be needed. If the rear wheels are spinning, release the throttle before switching to 4X4.

NOTICE: Switching to 4X4 or ADC 4X4 while the rear wheels are spinning may cause severe drive shaft and gearcase damage. Always switch to 4X4 or ADC 4X4 while the rear wheels have traction or are at rest.

FEATURES AND CONTROLS
Active Descent Control (ADC) System

The ADC system allows engine braking to all four wheels when the vehicle descends a hill or incline. Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill.

Engaging Active Descent Control

The ADC system will automatically engage when *all four* of the following conditions occur:

- The 4X4 switch must be in the ADC 4X4 position
- Vehicle speed must be 15 mph (25 km/h) or less
- The throttle must be closed (throttle lever released)
- The transmission must be in gear (high, low or reverse)

Disengaging Active Descent Control

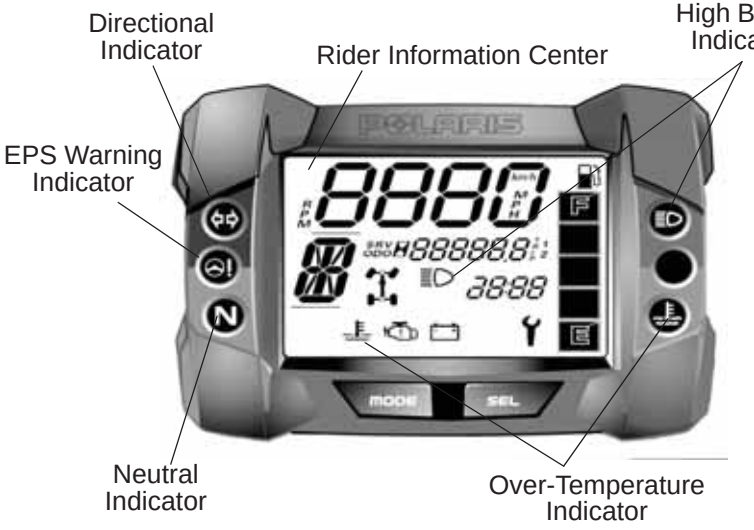
The ADC system will automatically disengage if *at least one* of the following conditions occur:

- The 4X4 switch is moved out of the ADC 4X4 position
- Vehicle speed exceeds 15 mph (25 km/h)
- The throttle is open (throttle is applied)
- The transmission is shifted to neutral or park

Instrument Cluster

Your vehicle is equipped with an instrument cluster that senses vehicle speed from a gear in the transmission. The instrument cluster measures distance in miles/kilometers as well as hours of operation.

In addition to showing vehicle speed, the instrument cluster also displays the following items: engine speed, odometer, resettable trip meters (2), total engine hours of operation, service interval timer and indicator, gear position, fuel level, AWD status, EPS status, high beam status, battery voltage warning, temperature warning and diagnostic display mode. These features are outlined on the following pages.



NOTICE: High water pressure may damage vehicle components. Wash the vehicle by hand or with a garden hose using mild soap.

Certain products, including insect repellents and chemicals, will damage the speedometer lens and other plastic surfaces. Do not use alcohol to clean the instrument cluster. Do not allow insect sprays to contact the lens. Immediately clean off any gasoline that splashes on the instrument cluster.

FEATURES AND CONTROLS

Instrument Cluster

Rider Information Center

The rider information center is located in the instrument cluster. All segments will light up for one second at start-up. If the instrument cluster fails to illuminate, a battery over-voltage may have occurred and the instrument cluster may have shut off to protect the electronic speedometer. If this occurs, please see your POLARIS dealer.

The information center is set to display standard units of measurement and a 12-hour clock at the factory. To change to metric and/or a 24-hour clock, see page 35.

1. **Gear Indicator** - This indicator displays gear shifter position.
   H = High Gear
   L = Low Gear
   N = Neutral
   R = Reverse Gear
   P = Park
   -- = Gear Signal Error (or shifter between gears)
2. **Information Display Area** - This area displays odometer, tripmeters, engine hour meter and programmable service hour interval.
3. **Speed Display** - This area displays vehicle ground speed or engine rotational speed when the corresponding display is selected. See page 34.

Instrument Cluster

Rider Information Center

4. **Fuel Gauge** - The segments of the fuel gauge show the level of fuel in the fuel tank. When the last segment clears, a low fuel warning is activated. All segments including the fuel icon will flash. Refuel immediately.

Tip: If the fuel icon fails to display, an open or short circuit has occurred in the fuel sensor circuit. See your dealer.

5. **High Beam Indicator** - This indicator appears when the lights are set to high beam.
6. **Clock** - The clock displays time in a 12-hour or 24-hour format. If the engine is turned off, press the MODE button. The time will display for 5-10 seconds. See page 36 for resetting instructions.
7. **Engine Overheat Warning** - This indicator flashes to indicate an overheated engine. If the indicator stops flashing but remains illuminated, the overheating condition remains, and the system will automatically reduce engine power.
8. **Service Indicator** - A flashing wrench symbol alerts the operator that the preset service interval has been reached. The vehicle should be brought to your dealer for scheduled maintenance. See page 36 for resetting instructions.
9. **Under / Over Voltage** - This warning usually indicates that the vehicle is operating at an RPM too low to keep the battery charged. It may also occur when the engine is at idle and high electrical load (lights, cooling fan, accessories) is applied. Drive at a higher RPM or recharge the battery to clear the warning.
10. **Check Engine Warning Indicator** - This indicator appears if an EFI-related fault occurs. Do not operate the vehicle if this warning appears. Serious engine damage could result. See your dealer.
11. **4X4 Indicator** - This indicator illuminates when the 4X4 system is engaged (switch is on either ADC 4X4 or 4X4).
12. **EPS Warning Indicator** - This indicator illuminates when the key is turned to the ON position and goes off when the engine is started. If the light remains on after starting the engine, the EPS system is inoperative. See your authorized POLARIS dealer for service.
13. **Directional Indicator** - This indicator illuminates when the hazard switch or a turn signal switch is turned on.

FEATURES AND CONTROLS

Instrument Cluster

Rider Information Center

Speed Display Area

Use the MODE button to toggle through the speed display options. MODE button operation is locked out at speeds above approximately 15 MPH (25 km/h).

Tip: The reverse override switch also acts as a MODE button when held down for approximately one half second. The transmission cannot be in reverse when using the override switch as a MODE button. This feature does not contain a vehicle speed lockout function and can be used at any operating speed.

Ground Speed Mode

Ground speed is displayed in either miles per hour (MPH) or kilometers per hour (km/h).

Engine Speed Mode

Engine speed is displayed in revolutions per minute (RPM).

Instrument Cluster

Rider Information Center

Information Display Area

Use the SELECT button (SEL) to toggle through the information area options. SELECT button operation is locked out at speeds above approximately 15 MPH (25 km/h).

Tip: The reverse override switch also acts as the SELECT button when pressed and released quickly. The transmission cannot be in reverse when using the override switch as a SELECT button. This feature does not contain a vehicle speed lockout function and can be used at any operating speed.

Standard/Metric Display

The display can be viewed in either standard or metric units of measurement. To change units:

1. Press and hold the MODE button until vehicle speed is displayed.
2. Toggle through the information area using the SELECT button until the odometer is displayed.
3. Press and hold the MODE button until the displayed units change. Release the button.
4. New settings remain until changed using the same procedure.

12-Hour/24-Hour Clock Display

1. Press and hold the MODE button until RPM is displayed.
2. Toggle through the information area using the SELECT button until the odometer is displayed.
3. Press and hold the MODE button until the clock displays the new clock format (either 24-hour or 12-hour). Release the button.
4. New settings remain until changed using the same procedure.

Odometer Mode

The odometer records and displays the distance traveled by the vehicle.

Trip Meter Mode

The trip meters record the distance traveled by the vehicle on each trip if reset before each trip. To reset a trip meter, select the trip meter 1 or trip meter 2 mode. Press and hold the MODE button on the instrument cluster until the total changes to 0. In the Rider Information Center, the trip meter display contains a decimal point, but the odometer displays without a decimal point.

Hour Meter Mode

This mode logs the total hours the engine has been in operation.

FEATURES AND CONTROLS
Instrument Cluster
Rider Information Center
Information Display Area
Programmable Service Interval

When the hours of engine operation equal the programmed service interval setting, the wrench icon will flash for 5 seconds each time the engine is started. When this feature is enabled, it provides a convenient reminder to perform routine maintenance. The service interval is programmed at 50 hours at the factory. Use the following procedure to change the service interval.

1. Press the SELECT button until remaining service hours display.
2. Press and hold the MODE button.
3. When the service hours flash, press and release the SELECT button to advance the hours to the desired setting (including OFF). When the digits stop flashing, the interval has been set.

Clock Mode

Use one of the following two methods to reset the clock.

Method 1

1. Select the Hour Meter Mode.
2. Press and hold the mode button on the instrument cluster until the hour display flashes. Release the button.
3. Press and release the SELECT button to advance the hours.
4. After the hours are set, press and release the MODE button to move to the minutes. Use the same procedure to reset the minutes.
5. When the digits stop flashing the clock has been set.

Method 2

1. With the key turned off, press and hold the MODE button.
2. While still holding the MODE button, turn the key to the ON position.
3. Continue to hold the MODE button until the hour display flashes. Release the button.
4. Set the time as outlined in steps 3-5 of Method 1.

Instrument Cluster

Rider Information Center

Information Display Area

Diagnostic Display Mode

The EFI diagnostic display mode is for informational purposes only. Please see your POLARIS dealer for all major repairs.

The diagnostic mode is accessible only when the check engine warning indicator activates after the key has been turned on. Leave the key on if you want to view the active code (failure code).

The diagnostic mode becomes inaccessible if the key is turned off and on and the warning indicator is no longer active. This allows the determination of persistent as well as intermittent faults.

Inactive codes are stored in the history of the unit. Please see your POLARIS dealer to retrieve inactive codes.

Use the following procedure to view active codes that occur when the key is on.

1. Place the transmission in PARK.
2. Press and release the SELECT button until the flashing check engine warning indicator appears in the display.
3. A set of two numbers will also appear in the display.
   - The 2-6 digit suspect parameter number (SPN) in the information area indicates which component is generating the fault code.
   - The 1-2 digit failure mode indicator (FMI) number in the clock area indicates the fault mode, such as open or short circuit.
4. See pages 38-41 for code definitions and failure descriptions.

Tip: More than one fault may be active. Press and hold the MODE button to toggle through all currently active diagnostic codes.

FEATURES AND CONTROLS
Instrument Cluster
Rider Information Center
Diagnostic Display Code Definitions

Open Load: There is a break in the wires that lead to the item listed in the chart (injector, fuel pump, etc.), or the item has failed.

Short-to-Ground: The wire is shorted to ground between the electronic control unit and the item listed in the chart.

Shorted Load: The wires leading to the item listed in the chart are shorted together, or the item has shorted internally.

Short-to-Battery: The wire leading from the item listed in the chart to the electronic control unit is shorted to a wire at battery voltage.

SPORTSMAN Forest 550 Diagnostic Codes			
Component	**Condition**	**SPN**	**FMI**
Throttle Position Sensor	Voltage Too High	51	3
	Voltage Too Low	51	4
Engine Temperature Sensor	Voltage Too High	110	3
	Voltage Too Low	110	4
	Temperature Too High	110	16
	Engine Overheat Shutdown	110	0
Intake Air Temperature Sensor	Voltage Too High	105	3
	Voltage Too Low	105	4
Manifold Absolute Pressure Sensor	Voltage Too High	102	3
	Voltage Too Low	102	4
Crankshaft Position Sensor	Circuit Fault	636	8
Gear Sensor Signal	Voltage Too Low (to Calibrate)	523	4
	Voltage Too High	523	3
	Signal Fault	523	2
Injector 1 (MAG)	Driver Circuit Open/Grounded	651	5
	Driver Circuit Short to B+	651	3
Ignition Coil Primary Driver 1 (MAG)	Driver Open/Grounded	1268	5
	Driver Circuit Short to B+	1268	3
Fuel Pump Driver Circuit	Driver Circuit Open/Grounded	1347	5
	Driver Circuit Short to B+	1347	3
Fan Relay Driver Circuit	Driver Circuit Open/Grounded	1071	5
	Driver Circuit Short to B+	1071	3

Instrument Cluster

Rider Information Center

SPORTSMAN Forest 550 Diagnostic Codes			
Component	**Condition**	**SPN**	**FMI**
Idle Air Control	Driver Circuit Grounded	520193	5
	Shorted Load*	520193	11
Starter Enable Circuit	Driver Circuit Short to B+	1321	3
All Wheel Drive Control	Driver Circuit Short to B+	520207	3
System Power	Voltage Too High	168	3
	Voltage Too low	168	4
Throttle Safety Signal	Voltage Too High	520194	3
	Voltage Too Low	520194	4
	Signal Out of Range	520194	2
	Throttle Stuck	520194	7
Active Descent Control System	Driver Circuit Short to B+	520203	3
Steering Over Current Shut Down	Current Above Normal or Grounded	520221	6
Steering Excessive Current Error	Current Above Normal or Grounded	520222	6
Steering Torque Sensor T1 Partial Failure	T1 Shorted to Ground	520223	4
	T1 Shorted to Bus	520223	3
Steering Torque Sensor T2 Partial Failure	T2 Shorted to Ground	520224	4
	T2 Shorted to Bus	520224	3
Steering Torque Sensor Full Failure	T1 and T2 Shorted to Ground	520225	4
	T1 and T2 Shorted to Bus	520225	3
	T1 Shorted to Ground & T2 Shorted to Bus	520225	16
	T2 Shorted to Ground & T1 Shorted to Bus	520225	17
	T1 and T2 are Shorted	520225	2
Steering Position Sensor P1 Partial Failure	P1 Shorted to Ground	520226	4
	P1 Shorted to Bus	520226	3
Steering Position Sensor P2 Partial Failure	P2 Shorted to Ground	520227	4
	P2 Shorted to Bus	520227	3
Steering Position Sensor Full Failure	P1 and P2 Shorted to Ground	520228	4
	P1 and P2 Shorted to bus	520228	3
EPAS Inverter Temperature	Greater than 110 Degrees C	520229	16
	Greater than 120 Degrees C	520229	0
EPAS CAN Communications Receive Error	No RX Message for 2 Seconds	520230	9
EPAS CAN Communications Transmit Error	No TX Message for 2 Seconds	520231	9

*Assumes unipolar configuration of stepper motor

FEATURES AND CONTROLS
Instrument Cluster
Rider Information Center

SPORTSMAN Forest 850 Diagnostic Codes			
Component	**Condition**	**SPN**	**FMI**
Throttle Position Sensor	Voltage Too High	51	3
	Voltage Too Low	51	4
Engine Temperature Sensor	Voltage Too High	110	3
	Voltage Too Low	110	4
	Temperature Too High	110	16
	Engine Overheat Shutdown	110	0
Intake Air Temperature Sensor	Voltage Too High	105	3
	Voltage Too Low	105	4
Manifold Absolute Pressure Sensor	Voltage Too High	102	3
	Voltage Too Low	102	4
	Signal Out of Range	102	2
Crankshaft Position Sensor	Circuit Fault	636	8
	Plausibility Fault	636	2
Vehicle Speed Signal	Speed Too High	84	8
	Plausibility Fault	84	2
Gear Sensor Signal	Voltage Too Low	523	4
	Voltage too high	523	3
	Signal fault	523	2
Injector 1 (MAG) (SDI Part Load)	Driver Circuit Open/Grounded	651	5
	Driver Circuit Short to B+	651	3
	Driver Circuit Grounded	651	4
Injector 2 (PTO) (SDI Part Load)	Driver Circuit Open/Grounded	652	5
	Driver Circuit Short to B+	652	3
	Driver Circuit Grounded	652	4
Ignition Coil Primary Driver 1 (MAG)	Driver Circuit Short to B+	1268	3
Ignition Coil Primary Driver 2 (PTO)	Driver Circuit Short to B+	1269	3
Fuel Pump Driver Circuit	Driver Circuit Open/Grounded	1347	5
	Driver Circuit Short to B+	1347	3
	Driver Circuit Grounded	1347	4
Fan Relay Driver Circuit	Driver Circuit Open/Grounded	1071	5
	Driver Circuit Short to B+	1071	3
	Driver Circuit Grounded	1071	4
Idle Air Control	Driver Circuit Open/Grounded	634	5
	Driver Circuit Short to B+	634	3
	Driver Circuit Grounded	634	4
	Position Out of Range	634	7
Starter Enable Circuit	Driver Circuit Open/Grounded	1321	5
	Driver Circuit Short to B+	1321	3
	Driver Circuit Grounded	1321	4

Instrument Cluster

Rider Information Center

SPORTSMAN Forest 850 Diagnostic Codes			
Component	**Condition**	**SPN**	**FMI**
Chassis Relay	Driver Circuit Open/Grounded	520208	5
	Driver Circuit Short to B+	520208	3
	Driver Circuit Grounded	520208	4
All Wheel Drive Control	Driver Circuit Open/Grounded	520207	5
	Driver Circuit Short to B+	520207	3
	Driver Circuit Grounded	520207	4
System Power	Voltage Too High	168	3
	Voltage Too low	168	4
Throttle Safety Signal	Voltage Too High	520194	3
	Voltage Too Low	520194	4
	Signal Out of Range	520194	2
	Throttle Stuck	520194	7
Active Descent Control System	Driver Circuit Open/Grounded	520203	5
	Driver Circuit Short to B+	520203	3
	Driver Circuit Grounded	520203	4
Idle Speed	Speed Too High	520211	3
	Speed Too Low	520211	4
Steering Over Current Shut Down	Current Above Normal/Grounded	520221	6
Steering Excessive Current Error	Current Above Normal/Grounded	520222	6
Steering Torque Sensor T1 Partial Failure	T1 Shorted to Ground	520223	4
	T1 Shorted to Bus	520223	3
Steering Torque Sensor T2 Partial Failure	T2 Shorted to Ground	520224	4
	T2 Shorted to Bus	520224	3
Steering Torque Sensor Full Failure	T1 and T2 Shorted to Ground	520225	4
	T1 and T2 Shorted to Bus	520225	3
	T1 Shorted to Ground & T2 Shorted to Bus	520225	16
	T2 Shorted to Ground & T1 Shorted to Bus	520225	17
	T1 and T2 are Shorted	520225	2
Steering Position Sensor P1 Partial Failure	P1 Shorted to Ground	520226	4
	P1 Shorted to Bus	520226	3
Steering Position Sensor P2 Partial Failure	P2 Shorted to Ground	520227	4
	P2 Shorted to Bus	520227	3
Steering Position Sensor Full Failure	P1 and P2 Shorted to Ground	520228	4
	P1 and P2 Shorted to bus	520228	3
EPAS Inverter Temperature	Greater than 110 Degrees C	520229	16
	Greater than 120 Degrees C	520229	0
EPAS CAN Comm. Receive Error	No RX Message for 2 Seconds	520230	9
EPAS CAN Comm. Transmit Error	No TX Message for 2 Seconds	520231	9

OPERATION

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Failure to operate the vehicle properly can result in a collision, loss of control, accident or overturn, which may result in serious injury or death. Read and understand all safety warnings outlined in the safety section of this owner's manual.

Break-In Period

The break-in period for your new POLARIS vehicle is the first 20 hours of operation. No single action on your part is as important as following the procedures for a proper break-in. Careful treatment of a new engine and drive components will result in more efficient performance and longer life for these components.

NOTICE: Excessive heat build-up during the first three hours of operation will damage close-fitted engine parts and drive components. Do not operate at full throttle or high speeds during the first three hours of use.

Break-In Period

Engine and Drivetrain Break-in

1. Fill the fuel tank with gasoline. See page 26. Always exercise extreme caution whenever handling gasoline.
2. Check the engine oil level on the dipstick. See page 79. Add oil if necessary to maintain the level between the safe and add marks.
3. Drive slowly at first. Select an open area that allows room to familiarize yourself with vehicle operation and handling.
4. Vary the throttle positions. Do not operate at sustained idle.
5. Perform regular checks on fluid levels, controls and areas outlined on the daily pre-ride inspection checklist. See page 44.
6. Pull only light loads.
7. Change both the oil and the filter at 25 hours.
8. Check the fluid level of the transmission after the first 25 hours of operation and every 100 hours thereafter.

PVT Break-in (Clutches/Belt)

A proper break-in of the clutches and drive belt will ensure a longer life and better performance. Break in the clutches and belt by operating at slower speeds during the break-in period as recommended. Pull only light loads. Avoid aggressive acceleration and high speed operation during the break-in period.

If a belt fails, always clean away all debris when replacing the belt.

OPERATION
Pre-Ride Checklist

Failure to inspect and verify that the vehicle is in safe operating condition before operating increases the risk of an accident. Always inspect the vehicle before each use to make sure it's in safe operating condition.

Item	Remarks	Page
Hand brake/lever travel	Ensure proper operation	93
Foot brake	Ensure proper operation	93
Brake fluid	Ensure proper levels	91
Front suspension	Inspect, lubricate if necessary	78
Rear suspension	Inspect, lubricate if necessary	78
Steering	Ensure free operation	-
Tires	Inspect condition and pressure	96
Wheels/fasteners	Inspect, ensure fastener tightness	96 97
Frame nuts, bolts, fasteners	Inspect, ensure tightness	-
Fuel and oil	Ensure proper levels	26 79
Coolant level	Ensure proper level	89 90
Coolant hoses	Inspect for leaks	-
Throttle	Ensure proper operation	22 104
Indicator lights/switches	Ensure proper operation	20
Engine stop switch	Ensure proper operation	21
Air filter, pre-filter	Inspect, clean	98
Headlamp	Check operation	21
Brake light/tail lamp	Check operation	103
Riding gear	Wear approved helmet, goggles, and protective clothing	14
ADC Fluid	Ensure proper level	84
Mirrors	Adjust for best side/rear vision	-
Winch	Inspect cable and switch.	61-72

Starting the Engine

1. Position the vehicle on a level surface.
2. Place the transmission in PARK.

Tip: The starter interlock will prevent the engine from starting if the transmission is in gear and the brake is not engaged.

3. Sit on the vehicle. Move the engine stop switch to RUN.
4. Do not press the throttle while starting the engine.
5. Turn the ignition key past the POSITION LIGHTS ON position to engage the starter. Activate the starter for a maximum of five seconds, releasing the key when the engine starts.
6. If the engine does not start, return the key to the OFF position and wait five seconds before attempting to start again. Activate the starter for another five seconds if necessary. Repeat this procedure until the engine starts.

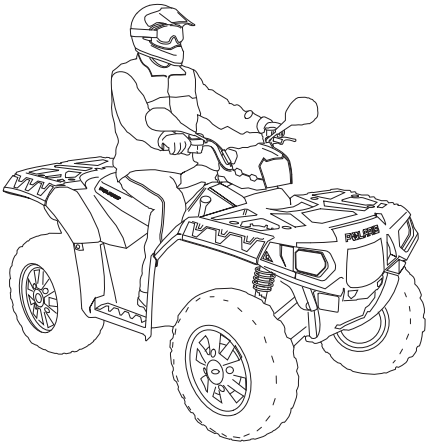
NOTICE: Operating the vehicle immediately after starting could cause engine damage. Allow the engine to warm up for several minutes before operating the vehicle.

Cold Weather Operation

If the vehicle is used year-round, check the oil level frequently. A rising oil level could indicate the accumulation of contaminates such as water or excess fuel in the bottom of the crankcase. Water in the bottom of the crankcase can lead to engine damage and must be drained. Water accumulation increases as outside temperature decreases.

See your POLARIS dealer for engine heater kits, which provide quicker warm-ups and easier starting in colder weather.

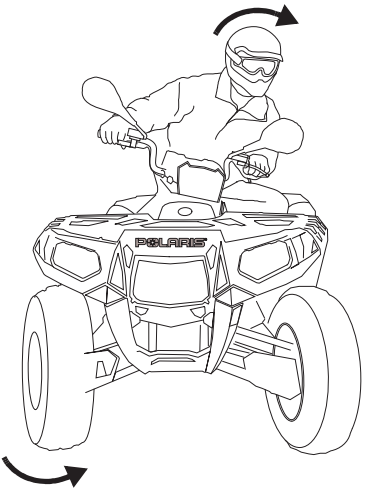
OPERATION
Driving Procedures



1. Wear protective riding gear. See page 14.
2. Perform the pre-ride inspection. See page 44.
3. Place the transmission in PARK.
4. Mount the vehicle from the left side.
5. Sit upright with both feet on the footrests. Keep both hands on the handlebars.
6. Start the engine and allow it to warm up.
7. Apply the brakes.
8. Shift the transmission into gear.
9. Check your surroundings and determine your path of travel.
10. Release the brakes.
11. Slowly depress the throttle with your right thumb and begin driving.
12. Drive slowly. Practice maneuvering and using the throttle and brakes on level surfaces.

Turning the Vehicle

1. Before turning, activate a turn signal to alert others of your intentions. Activate the left signal before a left turn. Activate the right signal before a right turn.
2. Steer in the direction of the turn, leaning your upper body to the inside of the turn while supporting your weight on the outer footrest. Use the same leaning technique for turning in reverse.
3. Practice making turns at slow speeds before attempting to turn at faster speeds.



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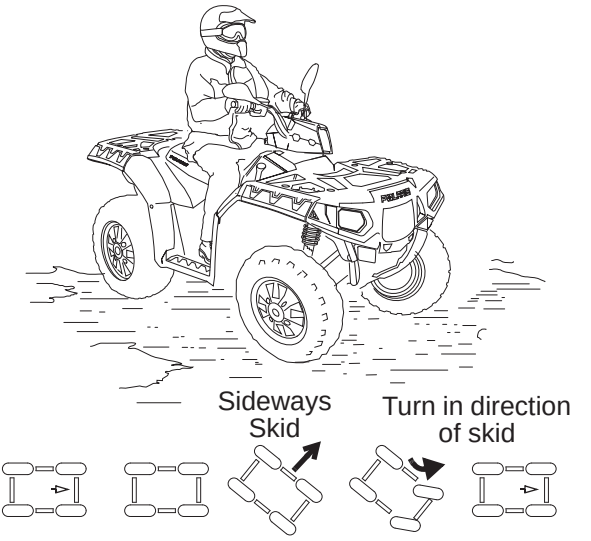
Always follow the procedures outlined in this manual for turning. Never turn sharply at excessive speeds, which can lead to vehicle overturn.

OPERATION
Driving on Slippery Surfaces



Whenever driving on slippery or loose surfaces such as wet trails, gravel, snow or ice, follow these precautions:

1. Slow down when entering slippery areas.
2. Engage 4X4 before wheels begin to lose traction.

NOTICE: Severe damage to drive train may occur if the 4X4 is engaged while the wheels are spinning. Allow the rear wheels to stop spinning before engaging 4X4, or engage 4X4 before wheels begin to lose traction.

3. Be alert. Watch the trail. Avoid quick, sharp turns
4. Never apply the brakes during a skid. Correct a skid by turning the handlebars in the direction of the skid and shifting your body weight forward.

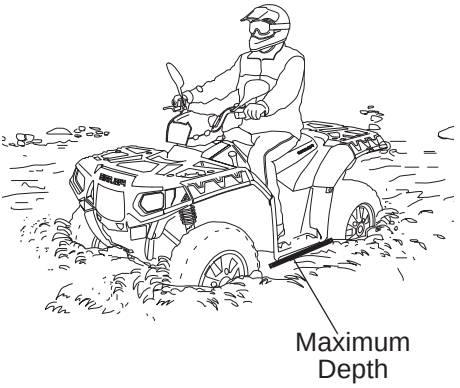
⚠

Always follow the procedures outlined in this manual for operating on slippery or loose surfaces. Use extra caution. Always avoid skidding or sliding.

Driving Through Water

Follow these procedures when driving through water:

1. Check water depth and current before crossing.
2. Choose a crossing where both banks have gradual inclines.
3. Drive slowly. Avoid rocks and obstacles.
4. Avoid operating in water deeper than the bottom of the footrests. If it's unavoidable, travel slowly, balance your weight carefully and avoid sudden movements. Maintain a slow and steady forward motion. Do not make sudden turns, stops or throttle changes.



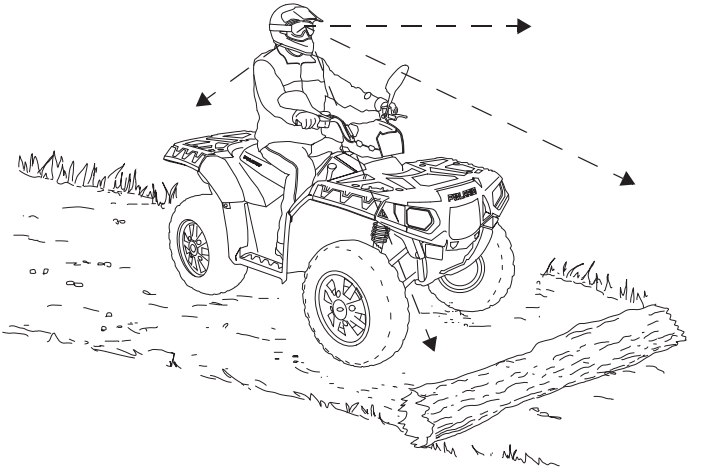
NOTICE: If the vehicle stops while fully submerged, major engine damage can result if the machine is not thoroughly inspected. Take the vehicle to your dealer before starting the engine.

5. Wet brakes may have reduced stopping ability. Dry the brake pads by driving slowly and applying the brakes lightly several times until braking action is normal.
6. If your vehicle becomes fully immersed, and it's impossible to take it to a dealer before starting it, follow the steps described on page 109. Have the vehicle serviced by your dealer promptly.

⚠

Always follow the procedures outlined in this manual for driving through water. Never drive through deep or fast-flowing water.

OPERATION
Driving Over Obstacles



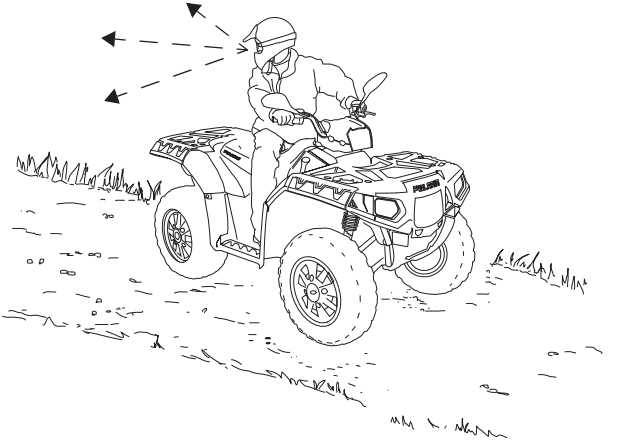
Follow these precautions when operating over obstacles:

1. Always check for obstacles before operating in a new area.
2. Be alert. Watch the terrain. Use extra caution.
3. Never operate over large obstacles.
4. Avoid hazards such as logs, rocks and low branches.

⚠

Always follow the procedures outlined in this manual for operating over obstacles.

Driving in Reverse



Follow these precautions when operating in reverse:

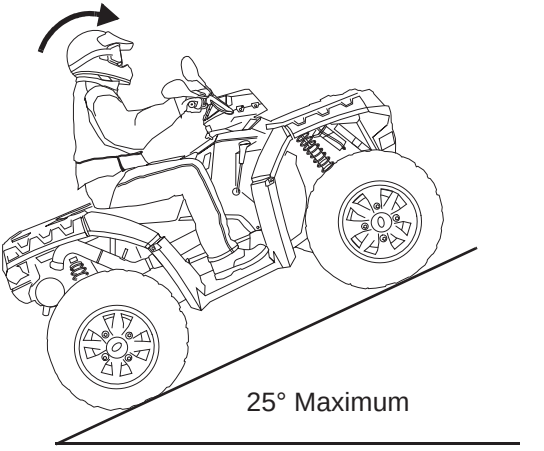
1. Always check for obstacles or people behind the vehicle.
2. Avoid backing downhill.
3. Drive slowly. Apply the brakes *lightly* for stopping.
4. Avoid turning at sharp angles.
5. Never open the throttle suddenly.
6. Do not use the override switch unless additional wheel speed is required for vehicle movement. Use with caution.

NOTICE: Excessive throttle operation while in the speed limit mode may cause fuel to build in the exhaust, resulting in engine popping and/or engine damage.

⚠

Always follow the procedures outlined in this manual for driving in reverse.

OPERATION
Driving Uphill



Whenever traveling uphill, follow these precautions:

1. Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill. See page 30.
2. Drive straight uphill.
3. Avoid steep hills (25° maximum).
4. Avoid hills with slippery or loose surfaces.
5. Keep both feet on the footrests.
6. Shift body weight uphill.
7. Proceed at a steady rate of speed to avoid stalling.
8. Be alert. Be prepared to take emergency action. This may include dismounting quickly.
9. Never open the throttle suddenly or make sudden gear changes.
10. Never go over the top of a hill at high speed.

Driving Uphill

If all forward speed is lost:

Keep your weight uphill.

If the vehicle begins rolling downhill, never apply engine power. Never apply the brakes aggressively while rolling backwards.

1. Apply the brakes gradually.
2. When fully stopped, lock the hydraulic parking brake.
3. Dismount on the uphill side, or on the left side if the vehicle is pointed straight uphill.
4. Use the K-turn to turn around. See page 56.

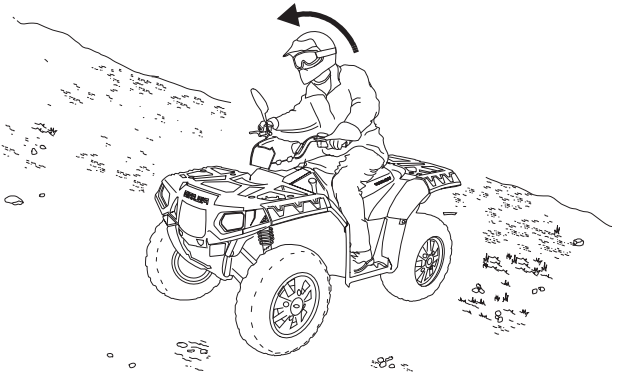
⚠

Always follow the procedures outlined in this manual for driving on hills. Avoid climbing hills steeper than 25°.

⚠

Always follow the procedures outlined in this manual for braking if you stall or roll backwards while climbing a hill. Never back down a hill.

OPERATION
Driving on a Sidehill (Sidehilling)



Avoid crossing the side of a hill (sidehilling) if possible. If sidehilling is necessary, follow these precautions:

1. Slow down.
2. Shift body weight uphill.
3. Keep your feet on the footrests.
4. Avoid hills with slippery or loose surfaces.
5. Avoid crossing the sides of steep hills.
6. If the vehicle begins to slide or tip, quickly turn the front wheel downhill, if possible, or dismount on the uphill side *immediately*!

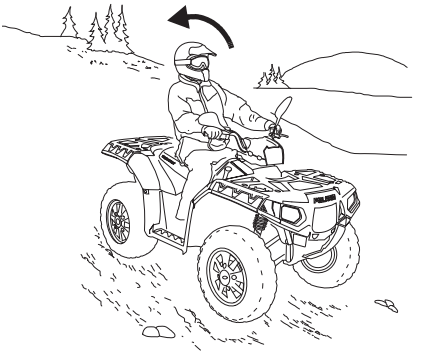
⚠

Always follow the procedures outlined in this manual for crossing the side of a hill.

Never attempt to turn the vehicle around on any hill until you've mastered (on level ground) the turning technique outlined in this manual.

Driving Downhill

When driving downhill, follow these precautions:



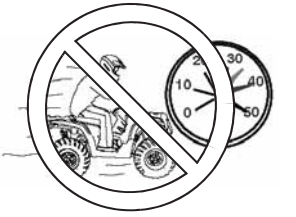
1. Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill. See page 30.
2. Avoid hills with slippery or loose surfaces.
3. Never drive downhill at high speed. Slow down.
4. Drive straight downhill. Avoid driving downhill at an angle, which can cause the vehicle to pitch sharply to one side.
5. Shift your weight rearward.
6. Apply the brakes *slightly* to aid in slowing.

⚠

Always follow the procedures outlined in this manual for driving downhill and for braking on hills.

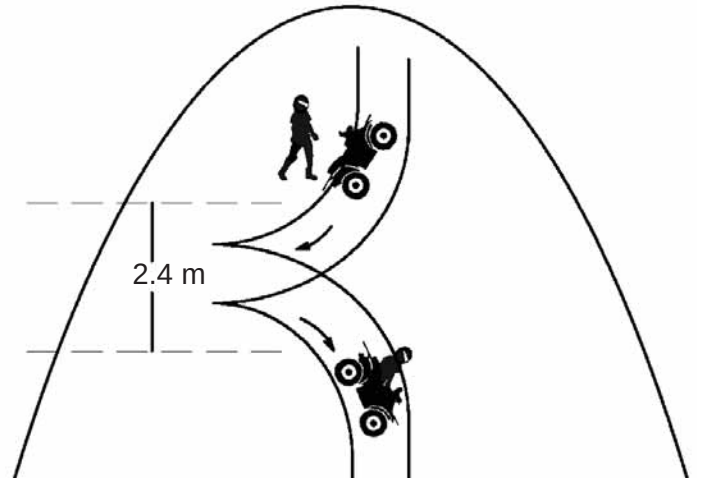
⚠

Never operate at excessive speeds. Travel and turn at speeds appropriate for the terrain, visibility, operating conditions and your experience.



OPERATION
Turning Around on a Hill (K-Turn)

If the vehicle stalls while climbing a hill, never back it down the hill! Use the K-turn to turn around.



1. Stop the vehicle. Keep your weight uphill.
2. Always move the 4X4 switch to ADC 4X4 before ascending or descending a hill. See page 30.
3. Lock the hydraulic parking brake.
4. Leave the transmission in forward gear. Turn the engine off.
5. Dismount on the uphill side, or on the left side if the vehicle is pointed straight uphill.
6. Stay uphill of the vehicle and turn the handlebars full left.
7. Squeeze the brake lever to release the parking brake.
8. Slowly release the brake lever and allow the vehicle to roll around to your right until it's pointing across the hill or slightly downward.

Turning Around on a Hill (K-Turn)

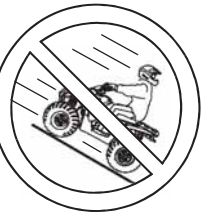
9. Lock the hydraulic parking brake.
10. Remount from the uphill side. Keep your weight uphill.
11. Apply the foot brake.
12. With the transmission still in forward, start the engine.
13. Squeeze and release the brake lever to release the parking brake.
14. Release the foot brake and drive *slowly* downhill. Control speed with either the hand or foot brake until the vehicle is on level ground.

⚠

Always follow the procedures outlined in this manual for driving on hills. See page 52. Never operate on hills too steep for the vehicle or for your abilities. Practice on smaller hills before attempting larger hills. Avoid climbing hills steeper than 25°.

⚠

Always follow the procedures outlined in this manual for braking if you stall or roll backwards while climbing a hill. Never back down a hill.

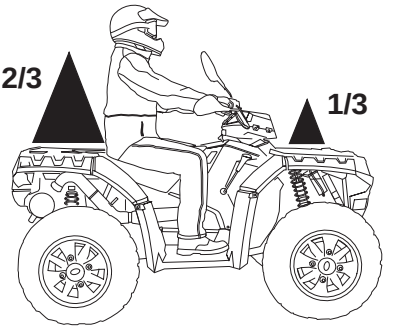


OPERATION
Hauling Cargo

Overloading the vehicle or carrying or towing cargo improperly can alter vehicle handling and may cause loss of control or brake instability. Always follow these precautions when hauling cargo.

- Read and understand the load distribution warnings listed on the vehicle warning labels.
- Never exceed the stated load capacity for this vehicle. When determining the weight you are adding to the vehicle, include the weight of the operator, accessories, loads in the rack or box and the load on the trailer tongue. The combined weight of these items must not exceed the maximum weight capacity.
- REDUCE SPEED AND ALLOW GREATER DISTANCES FOR BRAKING WHEN HAULING CARGO OR TOWING. Use extreme caution when applying brakes. Avoid situations that require backing downhill.
- CARGO WEIGHT DISTRIBUTION should be 1/3 on the front rack and 2/3 on the rear rack. When operating over rough or hilly terrain, reduce speed and cargo to maintain stable driving conditions. Carrying loads on only one rack increases the possibility of vehicle overturn.
- CARRY LOADS AS LOW ON THE RACKS AS POSSIBLE. Carrying loads high on the racks raises the center of gravity of the vehicle and creates a less stable operating condition.
- SECURE ALL LOADS BEFORE OPERATING. Unsecured loads can create unstable operating conditions, which could result in loss of control of the vehicle.
- OPERATE ONLY WITH STABLE AND SAFELY ARRANGED LOADS. When handling off-centered loads that cannot be centered, securely fasten the load and operate with extra caution. Always attach the tow load to the hitch point designated for your vehicle.
- HEAVY LOADS CAN CAUSE BRAKING AND CONTROL PROBLEMS. Use extreme caution when applying brakes with a loaded vehicle. Avoid terrain or situations that may require backing downhill.
- USE EXTREME CAUTION when operating with loads that extend over the rack sides. Stability and maneuverability may be adversely affected, causing the vehicle to overturn.
- NEVER exceed 50 MPH (80 km/h) when rear cargo loads are above 75 lbs. (34 kg) and/or front cargo loads are above 37 lbs. (17 kg).
- NEVER exceed 10 MPH (16 km/h) when rear cargo loads are above 200 lbs. (91 kg) and/or front cargo loads are above 100 lbs. (45 kg).
- TOWING is approved OFF-ROAD ONLY.
- TOWING SPEED should never exceed 16 km/h. Never exceed 8 km/h when towing loads in rough terrain, while cornering, or while ascending or descending hills.

Hauling Cargo



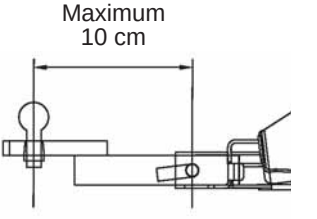
1. Never exceed the weight capacities specified for your vehicle on warning labels and in the specifications section of this manual.
2. Cargo weight should be evenly distributed (1/3 on the front rack and 2/3 on the rear rack) and mounted as low as possible.
3. When operating over rough or hilly terrain, reduce speed and cargo weight to maintain stable driving conditions.
4. NEVER exceed 50 MPH (80 km/h) when rear cargo loads are above 75 lbs. (34 kg) and/or front cargo loads are above 37 lbs. (17 kg).
5. NEVER exceed 10 MPH (16 km/h) when rear cargo loads are above 200 lbs. (91 kg) and/or front cargo loads are above 100 lbs. (45 kg).
6. Use low forward gear when hauling or towing heavy cargo to extend belt life.

OPERATION
Hauling Cargo
Towing Loads

Towing is approved OFF-ROAD ONLY. See your POLARIS dealer about configuring the vehicle to be certified to tow a trailer on-road.

- Do not tow any trailer on a grade steeper than 15°.
- Always attach a towed load to the hitch point. Remove the hitch from the vehicle when not towing a trailer.
- If towing a load, reduce rear rack cargo weight by the amount of tongue weight. The combination of rear rack cargo weight and tongue weight must not exceed the rear rack capacity.
- The total load (operator, accessories, cargo and weight on hitch) must not exceed the maximum weight capacity of the vehicle.
- FOREST 550 Unbraked Trailer Towing Capacity is 1786 lbs. (810 kg) based on EU Directive 76/432/EC.
- FOREST 850 Unbraked Trailer Towing Capacity is 1914 lbs. (868 kg) based on EU Directive 76/432/EC.

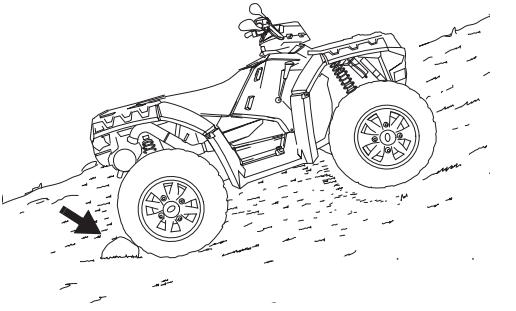
NOTICE: Using an improper hitch or exceeding the maximum tongue weight capacity can result in serious damage to the vehicle and will void your vehicle warranty. Never install a hitch longer than 10 cm. Never install automotive accessories on your POLARIS vehicle. Always install POLARIS-approved (or equivalent) accessories designed for use on this vehicle.



Parking on an Incline

Avoid parking on an incline if possible. If it's unavoidable, follow these precautions:

1. Stop the engine.
2. Place the transmission in PARK.
3. Always block the rear wheels on the downhill side.



These safety warnings and instructions apply if your vehicle came equipped with a winch or if you choose to add an accessory winch to your vehicle.

⚠WARNING

Improper winch use can result in SEVERE INJURY or DEATH. Always follow all winch instructions and warnings in this manual.

Your winch may have a cable made of either wire rope or specially designed synthetic rope. The term “winch cable” will be used for either unless noted otherwise.

Winch Safety Precautions

1. Read all sections of this manual.
2. Never use alcohol or drugs before or while operating the winch.
3. Never allow children under 16 years of age to operate the winch.
4. Always wear eye protection and heavy gloves when operating the winch.
5. Always keep body, hair, clothing and jewelry clear of the winch cable, fairlead and hook when operating winch.
6. Never attempt to “jerk” a load attached to the winch with a moving vehicle. See the *Shock Loading* section on page 70.
7. Always keep the area around the vehicle, winch, winch cable and load clear of people (especially children) and distractions while operating the winch.
8. Always turn the vehicle ignition power OFF when it and the winch are not being used.
9. Always be sure that at least five (5) full turns of winch cable are wrapped around the winch drum at all times. The friction provided by this wrapped cable allows the drum to pull on the winch cable and move the load.
10. Always apply your vehicle’s park brake and/or park mechanism to hold the vehicle in place during winching. Use wheel chocks if needed.

WINCH GUIDE
Winch Safety Precautions

11. Always align the vehicle and winch with the load directly in front of the vehicle as much as possible. Avoid winching with the winch cable at an angle to the winching vehicle's centerline whenever possible.
12. If winching at an angle is unavoidable, follow these precautions:
    A. Look at the winch drum occasionally. Never let the winch cable "stack" or accumulate at one end of the winch drum. Too much winch cable at one end of the winch drum can damage the winch and the winch cable.
    B. If stacking occurs, stop winching. Follow step 15 on page 68 to feed and rewind the cable evenly before continuing the winch operation.
13. Never winch up or down at sharp angles. This can destabilize the winching vehicle and possibly cause it to move without warning.
14. Never attempt to winch loads that weigh more than the winch's rated capacity.
15. The winch motor may become hot during winch use. If you winch for more than 45 seconds, or if the winch stalls during operation, stop winching and permit the winch to cool down for 10 minutes before using it again.
16. Never touch, push, pull or straddle the winch cable while winching a load.
17. Never let the winch cable run through your hands, even if wearing heavy gloves.
18. Never release the clutch on the winch when the winch cable is under load.
19. Never use the winch for lifting or transporting people.

Winch Safety Precautions

20. Never use the winch to hoist or suspend a vertical load.
21. Never immerse or submerse your winch in water. Take your winch to your dealer for service if this occurs.
22. Always inspect your winch and winch cable before each use.
23. Never winch the hook fully into the winch. This can cause damage to winch components.
24. Unplug the remote control from the vehicle when the winch is not in use to prevent inadvertent activation and use by unauthorized persons.
25. Never grease or oil the winch cable. This will cause the winch cable to collect debris that will shorten the life of the cable.

WINCH GUIDE
Winch Operation

Read the *Winch Safety Precautions* in the preceding pages before using your winch.

Tip: Consider practicing the operation and use of your winch before you actually need to use it in the field.

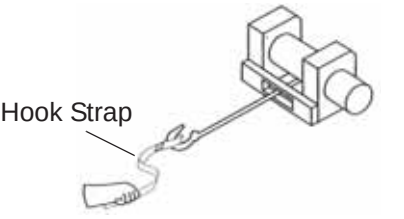
⚠ WARNING

Improper winch use can result in SEVERE INJURY or DEATH. Always follow all winch instructions and warnings in this manual.

Each winching situation is unique.

- Take your time to think through the winching you are about to do.
- Proceed slowly and deliberately.
- Never hurry or rush during winching.
- Always pay attention to your surroundings.
- You may need to change your winching strategy if it is not working.
- Always remember that your winch is very powerful.
- There are simply some situations that you and your winch will not be able to deal with. Do not be afraid to ask others to help when this happens.

1. Always inspect the vehicle, winch, winch cable and winch controls for any signs of damage or parts in need of repair or replacement before each use. *Pay particular attention to the first 3 feet (1 meter) of winch cable if the winch is being used (or has been used) for lifting an accessory plow assembly.* Promptly replace any worn or damaged cable.
2. Never operate a winch or a vehicle in need of repair or service.
3. Always apply your vehicle's park brake and/or park mechanism to hold the vehicle in place during winching. Use wheel chocks if needed.



Winch Operation

4. Always use the hook strap when handling the hook.

WARNING! Never put your fingers into the hook. This could lead to SEVERE INJURY.

A. Attach the hook itself onto the load or use a tow strap or chain to secure the load to the winch cable.

Tip: A “tow strap” is NOT intended to stretch. A “recovery strap” is designed to stretch.

WARNING! Never use a recovery strap when winching due to the excessive energy that can be released if the winch cable breaks. This can result in SEVERE INJURY or DEATH. See the *Shock Loading* section on page 70.

B. Never hook the winch cable back onto itself. This will damage the winch cable and may result in winch cable failure.

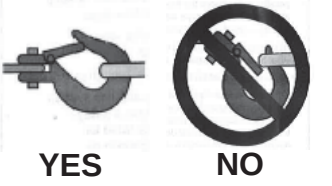
WARNING! Replace the winch cable at the first sign of damage to prevent SEVERE INJURY or DEATH in the event of failure. For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.

C. If possible, keep the winch cable aligned with the centerline of the winching vehicle. This will help the spooling of the winch cable and reduce the load on the fairlead.

D. If freeing a stuck vehicle by attaching to a tree, use an item such as a tow strap to avoid damaging the tree during winch operation. Sharp cables and chains can damage and even kill trees. Please remember to TreadLightly® (treadlightly.org).

E. Before operating the winch, be sure that the safety latch on the winch cable hook is fully seated when the load is attached.

F. Never operate your winch with a damaged hook or latch. Always replace damaged parts before using the winch.



WINCH GUIDE
Winch Operation

5. Never remove the hook strap from the hook.
6. Release the winch clutch and pull out the winch cable.
7. Pulling out as much cable as possible maximizes the winch's pulling capacity. Always be sure that at least five (5) full turns of winch cable are wrapped around the winch drum at all times. The friction provided by this wrapped cable allows the drum to pull on the winch cable and move the load.
8. Read and adhere to the following information for winch damping to ensure safe winch use.
   A. In order to absorb energy that could be released by a winch cable failure, always place a "damper" on the winch cable. A damper can be a heavy jacket, tarp, or other soft, dense object. A damper can absorb much of the energy released if a winch cable breaks when winching. Even a tree limb can help as a damper if no other items are available to you.
   B. Lay the damper on top of the mid-point of the winch cable length that is spooled out.
   C. On a long pull, it may be necessary to stop winching so that the damper can be repositioned to the new mid-point of the winch cable. Always release the tension on the winch cable before repositioning the damper.
   D. Avoid being directly in line with the winch cable whenever possible. Also, never permit others to stand near or in line with the winch cable during winch operation.
9. Never hook the winch cable back onto itself. This will damage the winch cable and may result in winch cable failure.
10. Never use straps, chains or other rigging items that are damaged or worn.

Winch Operation

11. The ONLY time a winch-equipped vehicle should be moving when using the winch is when that vehicle itself is stuck. The winch-equipped vehicle should NEVER be in motion to "shock" load the winch cable in an attempt to move a second stuck vehicle. See the *Shock Loading* section on page 70. For your safety, always follow these guidelines when winching a vehicle free:
    A. Release the winch clutch and spool out the necessary length of winch cable.
    B. Align the winch cable as close as possible to the winching vehicle's centerline.
    C. Attach the winch cable hook to the anchor point or the stuck vehicle's frame following instructions in this manual.
    D. Re-engage the clutch on the winch.
    E. Slowly winch in the slack in the winch cable.
    F. Select the proper vehicle gear to propel the stuck vehicle in the direction of winching.
    G. Shift to the lowest gear available on the stuck vehicle.
    H. Slowly and carefully apply vehicle throttle and winch together to free the vehicle.
    I. Stop winching as soon as the stuck vehicle is able to propel itself without the help of the winch.
    J. Detach the winch cable hook.
    K. Rewind the winch cable evenly back onto the winch drum following the instructions in this manual.
12. Never attempt to winch another stuck vehicle by attaching the winch cable to a suspension component, brush guard, bumper or cargo rack. Vehicle damage may result. Instead, attach the winch to a strong portion of the vehicle frame or hitch.

WINCH GUIDE
Winch Operation

13. Extensive winching will run down the battery on the winching vehicle. Let the winching vehicle's engine run while operating the winch to prevent the battery from running low if winching for long periods.
14. The winch motor may become hot during winch use. If you winch for more than 45 seconds, or if the winch stalls during operation, stop winching and permit the winch to cool down for 10 minutes before using it again.
15. After winching is complete, especially if winching at an angle, it may be necessary to re-distribute the winch cable across the winch drum. You will need an assistant to perform this task.
    A. Release the clutch on the winch.
    B. Feed out the winch cable that is unevenly bunched up in one area.
    C. Re-engage the winch clutch.
    D. Have an assistant pull the winch cable tightly with about 100 lbs. (45 kg) of tension using the hook strap.
    E. Slowly winch the cable in while your assistant moves the end of the winch cable back and forth horizontally to evenly distribute the winch cable on the drum.
    F. Doing this reduces the chances of the winch cable "wedging" itself between lower layers of winch cable.

Winch Cable Care

For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.

WARNING! Use of worn or damaged cable could lead to sudden failure and SEVERE INJURY.

1. Always inspect your winch before each use. Inspect for worn or loose parts including mounting hardware. Never use the winch if any part needs repair or replacement.
2. Always inspect your winch cable before each use. Inspect for worn or kinked winch cable.
   A. A kinked winch cable made of wire rope is shown at right. Even after being "straightened out," this cable has already been permanently and severely damaged. Promptly discontinue use of a winch cable in this condition.

   B. A kinked winch cable made of wire rope that has been "straightened out" is shown at right. Even though it may look usable, the cable has been permanently and severely damaged. It can no longer transmit the load that it could prior to kinking. Promptly discontinue use of a winch cable in this condition.

   C. A winch cable made of synthetic rope should be inspected for signs of fraying. Replace the cable if fraying is observed (shown at right). Promptly discontinue use of a winch cable in this condition.

   D. Also replace the winch cable if there are fused or melted fibers. Such an area of the synthetic rope will be stiff and appear smooth or glazed. Promptly discontinue use of a winch cable in this condition.

WINCH GUIDE
Shock Loading

WARNING! Your winch cable is very strong but it is NOT designed for dynamic, or "shock" loading. Shock loading may tension a winch cable beyond its strength and cause the cable to break. The end of a broken winch cable under such high loading can cause SEVERE INJURY or DEATH to you and other bystanders.

Winch cables are designed to NOT absorb energy. This is true of both wire-rope and synthetic-rope winch cables.

1. Never attempt to "jerk" a load with the winch. For example, never take up slack in the winch cable by moving the winching vehicle in an attempt to move an object. This is a dangerous practice. It generates high winch cable loads that may exceed the strength of the cable. Even a slowly moving vehicle can create large shock loads in a winch cable.

WARNING! SEVERE INJURY or DEATH can result from a broken winch cable.

2. Never quickly turn the winch ON and OFF repeatedly ("jogging"). This puts extra load on the winch, winch cable, and generates excessive heat from the motor. This is a form of shock loading.
3. Never tow a vehicle or other object with your winch. Towing an object with a winch produces shock loading of the cable even when towing at slow speeds. Towing from a winch also positions the towing force high on the vehicle. This can cause instability of the vehicle and possibly lead to an accident.

Shock Loading

4. Never use recovery straps with your winch. Recovery straps are designed to stretch and can store energy. This stored energy in the recovery strap is released if a winch cable fails making the event even more hazardous. Similarly, never use elastic “bungie” cords for winching.
5. Never use the winch to tie down a vehicle to a trailer or other transportation vehicle. This type of use also causes shock loading that can cause damage to the winch, winch cable, or vehicles used.

Your winch cable is designed and tested to withstand the loads produced by the winch motor when operated from a stationary vehicle. Always remember that the winch and winch cable are NOT designed for shock loading.

WINCH GUIDE
Winch Maintenance and Service Safety

WARNING! Improper or lack of winch maintenance and service could lead to SEVERE INJURY or DEATH. Always follow all winch instructions and warnings in this manual.

1. Always inspect your winch before each use. Inspect for worn or kinked winch cable. Also inspect for worn or loose parts including mounting hardware.
2. Permit your winch motor to cool down prior to servicing your winch.
3. Never work on your winch without first disconnecting the battery connections to prevent accidental activation of the winch
4. For your safety, always replace POLARIS winch parts (including the cable) with genuine POLARIS replacement parts available at your authorized POLARIS dealer.
5. Some winch models use wire rope as the winch cable. Other winches use a specially designed synthetic rope as the winch cable.
6. Never replace a synthetic-rope winch cable with a consumer-grade polymer rope such as can be purchased in a hardware store. Although they may look similar, they are NOT alike. A polymer rope not designed for winch use will stretch and store excessive energy when winching.

WARNING! Failure of a stretched rope under winching conditions will release all of the stored energy. This will increase the chances of SEVERE INJURY or DEATH.

Noise Emission Control System

Do not modify the engine, intake or exhaust components, as doing so may affect compliance with governmental noise level requirements.

Spark Arrester

Your POLARIS vehicle has a spark arrester that was designed for on-road and off-road operation. It is required that this spark arrester remain installed and functional when the vehicle is operated.

Exhaust Emission Control System

Exhaust emissions are controlled by engine design. An electronic fuel injection (EFI) system controls fuel delivery. The engine and EFI components are set at the factory for optimal performance and are not adjustable.

Electromagnetic Interference

This vehicle complies with the EMC requirements of European directives 97/24/EC and 2004/108/EC.

Non-ionizing Radiation: This vehicle emits some electromagnetic energy. People with active or non-active implantable medical devices (such as heart monitoring or controlling devices) should review the limitations of their device and the applicable electromagnetic standards and directives that apply to this vehicle.

European Vibration and Noise

The driver-perceived noise and hand/arm and whole body vibration levels of this machinery is measured per prEN 15997.

The operating conditions of the machinery during testing:

The vehicles were in like-new condition. The environment was controlled as indicated by the test procedure(s).

The uncertainty of vibration exposure measurement is dependent on many factors, including:

- Instrument and calibration uncertainty
- Variations in the machine such as wear of components
- Variation of machine operators such as experience or physique
- Ability of the worker to reproduce typical work during measurements
- Environmental factors such as ambient noise or temperature

MAINTENANCE
Periodic Maintenance Chart

Careful periodic maintenance will help keep your vehicle in the safest, most reliable condition. Inspection, adjustment and lubrication of important components are explained in the periodic maintenance chart.

Inspect, clean, lubricate, adjust and replace parts as necessary. When inspection reveals the need for replacement parts, use genuine POLARIS parts available from your POLARIS dealer.

Record maintenance and service in the Maintenance Log beginning on page 140.

Service and adjustments are important for proper vehicle operation. If you're not familiar with safe service and adjustment procedures, have a qualified dealer perform these operations.

Maintenance intervals in the following chart are based upon average riding conditions and an average vehicle speed of approximately 10 miles per hour. Vehicles subjected to severe use must be inspected and serviced more frequently.

Severe Use Definition

- Frequent immersion in mud, water or sand
- Racing or race-style high RPM use
- Prolonged low speed, heavy load operation
- Extended idle
- Short trip cold weather operation

Pay special attention to the oil level. A rise in oil level during cold weather can indicate contaminants collecting in the oil sump or crankcase. Change oil immediately if the oil level begins to rise. Monitor the oil level, and if it continues to rise, discontinue use and determine the cause or see your dealer.

Periodic Maintenance Chart

Maintenance Chart Key

Symbol	Description
►	Perform these operations more often for vehicles subjected to severe use.
E	Emission-related service.
D	Have an authorized POLARIS dealer perform these services.

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Improperly performing the procedures marked with a **"D"** could result in component failure and lead to serious injury or death. Have an authorized POLARIS dealer perform these services.

Perform all services at whichever maintenance interval is reached first.

Item		Maintenance Interval (whichever comes first)			Remarks
		Hours	**Calendar**	**Miles (Km)**	
	Steering	-	Pre-Ride	-	See Pre-Ride Checklist on page 44.
	Front suspension	-		-	
	Rear suspension	-		-	
	Tires	-		-	
	Brake fluid level	-		-	
	Brake lever travel	-		-	
	Brake system	-		-	
	Wheels/fasteners	-		-	
	Frame fasteners	-		-	
	Engine oil level	-		-	
	Winch	-		-	See pages 61-72.
► **E**	Air filter, pre-filter	-	Daily	-	Inspect; clean often; replace as needed
	Coolant	-	Daily	-	Check level daily, change coolant every 2 years
►	ADC fluid	-	Daily	-	Check level daily, add as needed
►	Power steering unit (if equipped)	-	Daily	-	Inspect daily; clean often
	Headlamp/taillight	-	Daily	-	Check operation
► **E**	Air filter, main element	-	Weekly	-	Inspect; replace as needed

MAINTENANCE
Periodic Maintenance Chart

	Item	Maintenance Interval (whichever comes first)			Remarks
		Hours	Calendar	Miles (Km)	
►	Brake pad wear	10 H	Monthly	100 (160)	Inspect periodically
	Battery	20 H	Monthly	200 (320)	Check terminals; clean; test
►	Engine oil change	25 H	1 M	250 (400)	Break-in oil and filter change (see page 42)
►	Demand drive fluid (extreme use)	25 H	1 M	250 (400)	Change fluid every 25 hours if ADC is subjected to extreme use. See page 83.
►	Demand drive fluid	25 H	1 M	250 (400)	Break-in oil level check
►	Rear gearcase oil	25 H	1 M	250 (400)	Break-in oil level check
►	Transmission oil	25 H	1 M	250 (400)	Break-in oil level check
►	General lubrication	50 H	3 M	500 (800)	Lubricate all fittings, pivots, cables, etc.
	Shift linkage	50 H	6 M	500 (800)	Inspect, lubricate
D	Steering	50 H	6 M	500 (800)	Lubricate
►	Front suspension	50 H	6 M	500 (800)	Lubricate
►	Rear suspension	50 H	6 M	500 (800)	Lubricate
D E	Throttle Cable/ Throttle Release Switch	50 H	6 M	500 (800)	Inspect; adjust; lubricate; replace if necessary
E	Throttle Body Intake Duct	50 H	6 M	500 (800)	Inspect duct for proper sealing/air leaks
	Drive belt	50 H	6 M	500 (800)	Inspect; replace as needed
	Cooling system	50 H	6 M	1000 (1600)	Inspect coolant strength seasonally; pressure test system yearly
►	Radiator	50 H	6 M	1000 (1600)	Inspect; clean external surfaces
►	Cooling hoses	50 H	6 M	1000 (1600)	Inspect for leaks

► Perform these procedures more often for vehicles subjected to severe use.
E Emission-Related Service
D Have an authorized POLARIS dealer perform these services.

Periodic Maintenance Chart

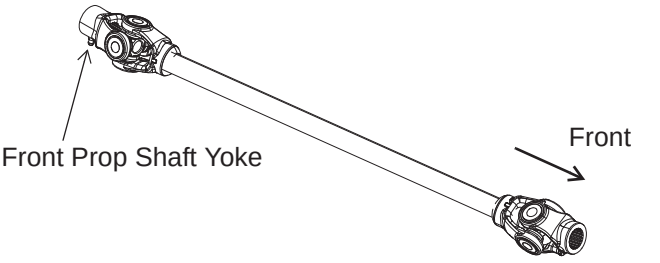
Item		Maintenance Interval (whichever comes first)			Remarks
		Hours	Calendar	Miles (Km)	
►	Oil lines and fasteners	100	6 M	1000 (1600)	Inspect for leaks and loose fittings
►	Engine oil change	100 H	6 M	1000 (1600)	Change the oil and filter
►	Demand drive fluid (normal use)	100 H	12 M	1000 (1600)	Change fluid
►	Rear gearcase oil	100 H	12 M	1000 (1600)	Change fluid
►	Transmission oil	100 H	12 M	1000 (1600)	Change fluid
	Fuel system	100 H	12 M	1000 (1600)	Check for leaks at tank cap, lines, filter, pump; replace lines every two years
►	Engine mounts	100 H	12 M	1000 (1600)	Inspect
	Exhaust muffler/ pipe	100 H	12 M	1000 (1600)	Inspect
D E	Spark plug	100 H	12 M	1000 (1600)	Inspect; replace as needed
►	Wiring	100 H	12 M	1000 (1600)	Inspect for wear, routing, security; apply dielectric grease to connectors subjected to water, mud, etc.
D	Clutches (drive and driven)	100 H	12 M	1000 (1600)	Inspect; clean; replace worn parts
D	Front wheel bearings	100 H	12 M	1000 (1600)	Inspect; replace as needed
D	Brake fluid	200 H	24 M	2000 (3200)	Change every two years
► **D**	ADC fluid	200 H	24 M	2000 (3200)	Change every two years
	Spark arrester	300 H	36 M	3000 (4800)	Clean out
D E	Valve clearance	1000 H	-	10000 (16000)	Inspect; adjust
D	Toe adjustment	-			Inspect periodically; adjust when parts are replaced
	Headlight aim	-			Adjust as needed

MAINTENANCE
Lubrication Guide

Check and lubricate all components at the intervals outlined in the Periodic Maintenance Chart beginning on page 74. Items not listed in the chart should be lubricated at the General Lubrication interval.

The a-arms and lower control arms are lubricated at the factory, and no additional lubrication will be needed. However, if these components are subjected to severe use, grease zerks have been provided for additional lubrication at the user's discretion.

Item	Recommended Lubricant	Capacity at Fluid Change	Fill Plug Torque	Drain Plug Torque	Inspection Procedure
550 Engine Oil	PS-4 5W-50 4-Cycle Oil	2 qt. (1.9 l)	---	15-17 ft. lbs. (20-23 Nm)	Page 79.
850 Engine Oil	PS-4 5W-50 4-Cycle Oil	2 qt. (1.9 l)	---	12 ft. lbs. (16 Nm)	Page 79.
Transmission Oil	AGL Gearcase Lubricant & Transmission Fluid	37 oz. (1100 ml)	10-14 ft. lbs. (14-19 Nm)	10-14 ft. lbs. (14-19 Nm)	Page 82.
Demand Drive Fluid (Front Gearcase)	Demand Drive Fluid	9.3 oz. (275 ml)	8-10 ft. lbs. (11-14 Nm)	11 ft. lbs. (15 Nm)	Page 83.
Rear Gearcase Oil	ATV Angle Drive Fluid (or GL5 80-90 weight gear lube)	7.1 oz. (210 ml)	10-14 ft. lbs. (14-19 Nm)	10-14 ft. lbs. (14-19 Nm)	Page 86.
Brake Fluid	DOT 4 Brake Fluid	---	---	---	Page 91.
ADC Fluid	Demand Drive Fluid	---	---	---	Page 84.
Front Prop Shaft Yoke	U-Joint Grease	Grease fittings (3 pumps maximum) every 500 miles, before long periods of storage, or after pressure washing or submerging.			
A-Arms, Front and Rear	POLARIS All Season Grease	Grease fittings after extreme use or if suspension becomes squeaky.			



Engine Oil

Oil Recommendations

POLARIS recommends the use of POLARIS PS-4 Full Synthetic 5W-50 4-cycle oil or a similar oil for this engine. Oil may need to be changed more frequently if POLARIS oil is not used. Always use 5W-50 oil. Follow the manufacturer's recommendations for ambient temperature operation. See page 131 for the part numbers of POLARIS products.

See the table on page 78 for fluid recommendations, capacities and plug torques.

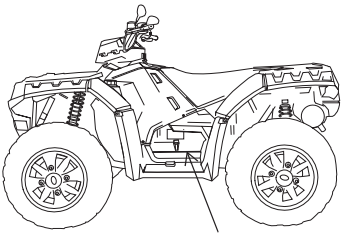
NOTICE: Mixing brands or using a non-recommended oil may cause serious engine damage. Always use the recommended oil. Never substitute or mix oil brands.

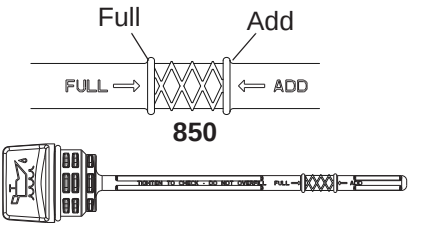
Oil Level

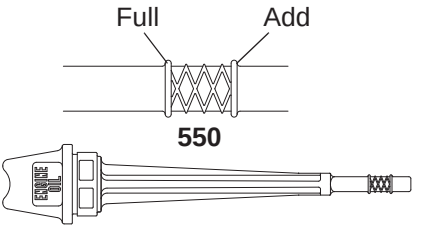
Check the oil level when the engine is cold. *Never check the oil with the engine running.*

Access the oil dipstick and fill tube from the left side of the vehicle.

1. Position the vehicle on a level surface. Place the transmission in PARK.
2. Remove the dipstick. Wipe it dry with a clean cloth.
3. Reinstall and tighten the dipstick.
4. Remove the dipstick and check the oil level.
5. Add the recommended fluid as needed. Maintain the oil level in the safe range between the FULL and ADD marks. Do not overfill.
6. Reinstall and tighten the dipstick.

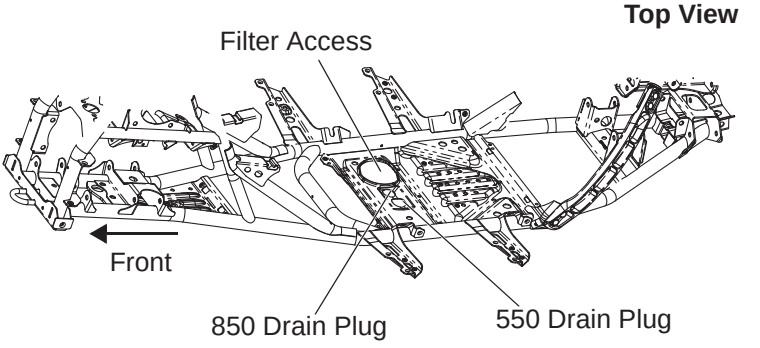






MAINTENANCE
Engine Oil
Oil and Filter Change

See the table on page 78 for fluid recommendations, capacities and plug torques. Always change the oil and filter at the intervals outlined in the Periodic Maintenance Chart beginning on page 74. Always change the oil filter whenever changing oil.



1. Position the vehicle on a level surface. Place the transmission in PARK.
2. Start the engine. Allow it to warm up at idle for two to three minutes.
3. Stop the engine.
4. Clean the area around the drain plug.
5. Place a drain pan under the crankcase.
6. Remove the drain plug. Allow the oil to drain completely.

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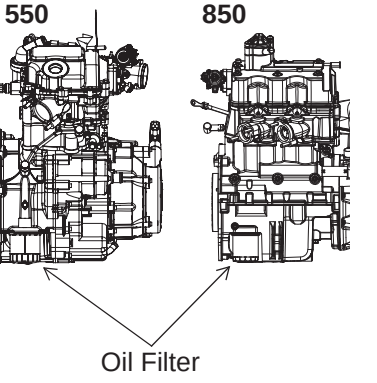
Hot oil can cause burns to skin. Do not allow hot oil to contact skin.

7. Install a new sealing washer on the drain plug. The sealing surfaces on drain plug and crankcase should be clean and free of burrs, nicks or scratches.
8. Reinstall the drain plug. Torque to specification.

Engine Oil

Oil and Filter Change

9. Place shop towels beneath the oil filter. Using an oil filter wrench (available from your POLARIS dealer), turn the filter counterclockwise to remove it.
10. Using a clean dry cloth, clean the filter sealing surface on the crankcase.
11. Lubricate the o-ring on the new filter with a film of fresh engine oil. Check to make sure the o-ring is in good condition.
12. Install the new filter and rotate it clockwise by hand until the filter gasket contacts the sealing surface, then turn it an additional 1/2 turn.

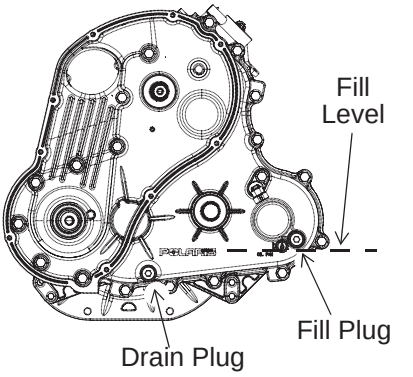


13. Remove the dipstick. Add the proper amount of the recommended oil. Do not overfill.
14. Reinstall the dipstick.
15. Place the transmission in PARK.
16. Start the engine. Allow it to idle for one to two minutes.
17. Stop the engine.
18. Check for leaks.
19. Check the oil level. Add oil as needed to bring the level to the upper mark on the dipstick.
20. Dispose of used filter and oil properly.

MAINTENANCE
Transmission Oil

See the table on page 78 for fluid recommendations, capacities and plug torques. Always check and change the transmission oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 74. See page 131 for the part numbers of POLARIS products.

Maintain the oil level at the bottom of the fill plug hole. The fill plug is located on the right side of the vehicle behind the footwell. The drain plug is located on the bottom left side of the gearcase.



Oil Check

1. Remove the footwell (see page 95).
2. Remove the fill plug. Check the oil level.
3. Add the recommended fluid as needed to bring the level to the bottom of the fill hole threads.
4. Reinstall the fill plug. Torque to specification.
5. Reinstall the footwell.

Oil Change

1. Remove the footwell.
2. Place a drain pan under the gearcase. Remove the drain plug. Allow the oil to drain completely.
3. Clean and reinstall the drain plug. Torque to specification.
4. Remove the fill plug. Add the proper amount of the recommended oil.
5. Reinstall the fill plug. Torque to specification.
6. Check for leaks.
7. Reinstall the footwell.
8. Dispose of used oil properly.

Front Gearcase (Demand Drive) Fluid

See the table on page 78 for fluid recommendations, capacities and plug torques. Always check and change the demand drive fluid at the intervals outlined in the Periodic Maintenance Chart beginning on page 74. See page 131 for the part numbers of POLARIS products.

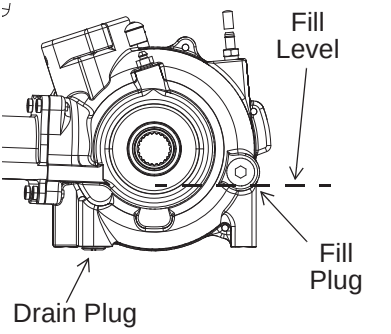
Change the front gearcase fluid every 25 hours if the ADC unit is exposed to extreme use. Extreme use includes any of the following:

- operation in ADC mode for prolonged periods
- constant ADC operation on hilly or mountainous terrain
- ADC is the primary mode of all-wheel-drive operation

Tip: If the front gearcase is makes excessive noise during ADC operation, change the demand drive fluid. If the noise continues, please see your POLARIS dealer for service.

Use the recommended fluid. Use of other fluids may result in improper operation of components. Maintain the fluid level at the bottom of the fill hole threads. See below for capacity.

The fill plug is located on the right side of the demand drive unit. The drain plug is located on the bottom right side of the unit.



Fluid Check

1. Position the vehicle on a level surface. Remove the fill plug. Check the fluid level.
2. Add the recommended fluid as needed to bring the level to the bottom of the fill hole threads.
3. Reinstall the fill plug. Torque to specification.

Fluid Change

1. Position the vehicle on a level surface. Remove the fill plug.
2. Place a drain pan under the demand drive unit. Remove the drain plug. Allow the fluid to drain completely.
3. Clean and reinstall the drain plug. Torque to specification.
4. Add the proper amount of the recommended fluid.
5. Reinstall the fill plug. Torque to specification.
6. Check for leaks. Dispose of used fluid properly.

MAINTENANCE
Active Descent Control (ADC) Fluid

If your vehicle is equipped with Active Descent Control, there are two fluid levels that must be maintained (demand drive fluid and ADC fluid). See page 83 for demand drive fluid maintenance.

Check and change the ADC fluid level at the intervals outlined in the Periodic Maintenance Chart beginning on page 74.

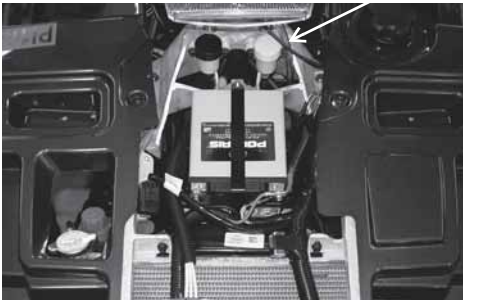
NOTICE: Change the ADC fluid every 25 hours if the ADC unit is exposed to extreme use. Extreme use includes operation in ADC mode for prolonged periods or in environments that necessitate primary operation in ADC mode.

We recommend the use of POLARIS Demand Drive Fluid. Maintain the fluid level between the minimum and maximum marks on the reservoir. See page 131 for the part numbers of POLARIS products.

NOTICE: Do not use brake fluid. Brake fluid will damage rubber components in the hydraulic system.

1. Remove the front rack.
2. View the fluid level in the reservoir.
3. If the level is below the minimum mark, remove the cap and add the recommended fluid.
4. Reinstall the cap.
5. Reinstall the front rack.

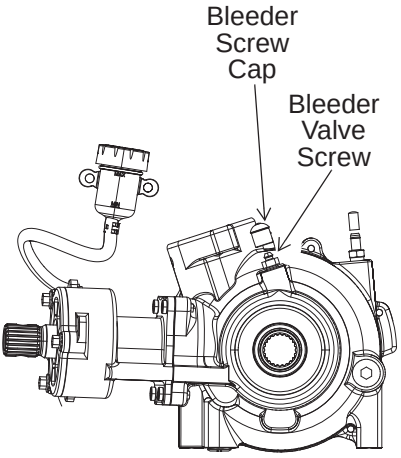
ADC Fluid Reservoir



Active Descent Control (ADC) Fluid

Fluid Change

1. Position the vehicle on a level surface. Before performing the fluid change, allow the vehicle to sit for at least 30 minutes.
2. Thoroughly clean the areas around and on the ADC reservoir and bleeder valves (one on each side of the differential).
3. Remove the reservoir cap and diaphragm assembly. Use a shop towel or suction tool to remove debris from the fluid and reservoir. Debris in the reservoir may result in inadequate bleeding and reduced performance of the system.



4. Fill the reservoir to the maximum line with fresh recommended fluid.
5. Remove the protective caps from the bleeder valves.
6. Slowly loosen one of the screws (turn counter-clockwise) and allow fluid and trapped air to flow from the fitting. Tighten the screw when clean fluid begins to flow. Repeat this step for the remaining valve.

IMPORTANT: Close the bleeder valves before the reservoir fluid level drops below the minimum fill line. Adding fluid to an empty reservoir will result in trapped air. If the level drops below the minimum line, add fluid to the maximum line and repeat step 6 before proceeding.

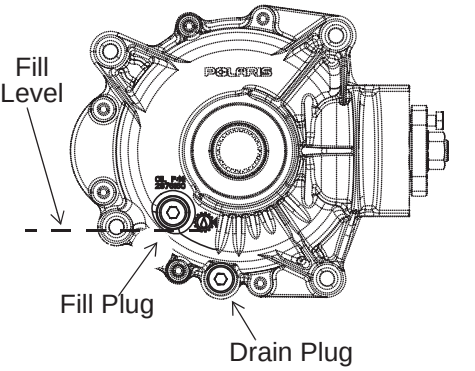
7. Torque the valves to 80 in. lbs. (9 Nm). Reinstall the valve caps.
8. Add fresh recommended fluid to the reservoir until the level is between the minimum and maximum marks. Make sure the reservoir is free of debris.
9. Reinstall the cap securely. Clean up any drips or spills.

MAINTENANCE
Rear Gearcase Oil

See the table on page 78 for fluid recommendations, capacities and plug torques. Always check and change the rear gearcase oil at the intervals outlined in the Periodic Maintenance Chart beginning on page 74. See page 131 for the part numbers of POLARIS products.

The fill plug is located on the rear of the gearcase. The drain plug is located on the bottom of the gearcase.

Maintain the fluid level at the bottom of the fill hole threads. Do not overfill.



Oil Check

1. Position the vehicle on a level surface.
2. Remove the fill plug. Check the oil level.
3. Add the recommended oil as needed to bring the level to the bottom of the fill hole threads. *Do not overfill.*
4. Reinstall the fill plug. Torque to specification.

Rear Gearcase Oil

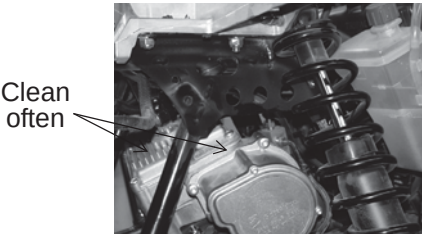
Oil Change

1. Position the vehicle on a level surface.
2. Place a drain pan under the drain hole.
3. Remove the drain plug. Allow the oil to drain completely.
4. Clean and reinstall the drain plug with a new sealing washer. Torque to specification.
5. Remove the fill plug. Add the proper amount of the recommended oil. *Do not overfill*.
6. Reinstall the fill plug. Torque to specification.
7. Check for leaks.
8. Dispose of used oil properly.

MAINTENANCE

Power Steering Unit

If your model is equipped with power steering, frequently clean the areas around and on the power steering unit to allow proper cooling. Clean these areas thoroughly.



Cooling System

The engine coolant level is controlled by the recovery system. Recovery system components are the recovery bottle, the radiator filler neck, the radiator pressure cap and the connecting hose.

As coolant operating temperature increases, the expanding (heated) excess coolant is forced out of the engine, past the pressure cap, and into the recovery bottle. As engine coolant temperature decreases the contracting (cooled) coolant is drawn back up from the bottle, past the pressure cap, and into the radiator.

Some coolant level drop on new vehicles is normal as the system is purging itself of trapped air. Check the coolant level and maintain as recommended by adding coolant to the recovery bottle.

POLARIS recommends the use of POLARIS Antifreeze 60/40 premix or a 50/50 mixture of high quality aluminum compatible anti-freeze/coolant and distilled water. POLARIS Antifreeze is already premixed and ready to use. Do not dilute with water. See page 131 for the part numbers of POLARIS products.

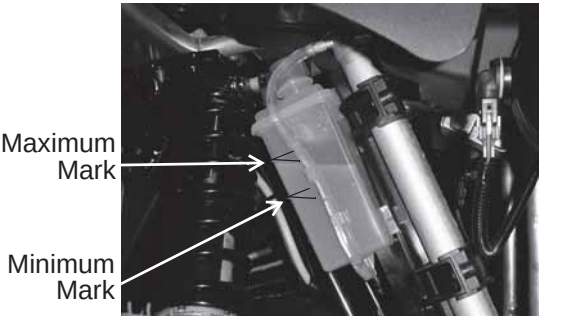
Always follow the manufacturer's mixing recommendations for the freeze protection required in your area.

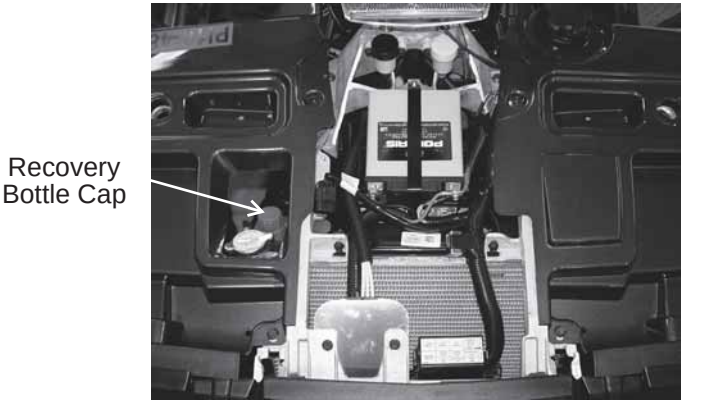
Cooling System

Recovery Bottle Coolant

The recovery bottle fluid level can be viewed from inside the front right wheel well. Access the recovery bottle cap under the front storage compartment.

1. View the fluid level in the bottle.
2. If the level is low, remove the front rack.
3. Remove the bottle cap and add coolant as needed. Maintain the coolant level between the minimum and maximum marks on the bottle (when the fluid is cool).
4. Reinstall the cap.
5. Reinstall the front rack.





MAINTENANCE
Cooling System
Radiator Coolant

To ensure that the coolant maintains its ability to protect the engine, POLARIS recommends that you drain the system completely every two years and add a fresh mixture of antifreeze and water.

Replace the coolant any time the cooling system has been drained for maintenance or repair. If the recovery bottle has run dry, check the level in the radiator. Add coolant as needed.

⚠

Escaping steam can cause burns. Never remove the pressure cap while the engine is warm or hot. Always allow the engine to cool before removing the pressure cap.

1. Remove the front rack.
2. Remove the pressure cap.
3. Using a funnel, slowly add coolant through the radiator filler neck.
4. Reinstall the pressure cap. Use of a non-standard pressure cap will not allow the recovery system to function properly. Contact your dealer for the correct replacement part.
5. Reinstall the front rack.

Radiator Cap

Brake Fluid

Check brake fluid levels for both brake systems before each ride. Always maintain brake fluid at the recommended level. Do not overfill.

The brakes should feel firm when they're applied. Spongy or weak brakes may indicate a fluid leak or low fluid level. A low fluid level may also mean that brake pads are worn and need to be replaced. Do not operate the vehicle with spongy or weak brakes. See your dealer for service.

Operating the vehicle with a spongy brake can result in loss of braking, which could cause an accident. Never operate the vehicle with spongy-feeling brakes.

If the fluid level is low add DOT 4 brake fluid only. See page 131 for the part numbers of POLARIS products.

An over-full master cylinder may cause brake drag or brake lock-up, which could result in serious injury or death. Maintain brake fluid at the recommended level. Do not overfill.

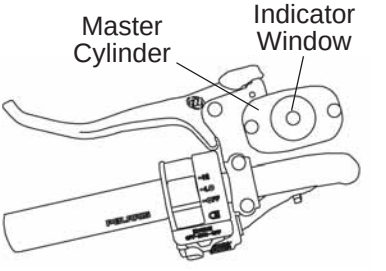
Under normal operation, the diaphragm extends into the reservoir as fluid level drops. If the fluid level is low and the diaphragm is not extended, a leak is likely and the diaphragm should be replaced. To ensure proper diaphragm operation, always fill the reservoir as needed whenever the cover is loosened or removed. Do not overfill.

Never store or use a partial bottle of brake fluid. Brake fluid is hygroscopic, meaning it rapidly absorbs moisture from the air. The moisture causes the boiling temperature of the brake fluid to drop, which can lead to early brake fade and the possibility of accident or severe injury. After opening a bottle of brake fluid, always discard any unused portion.

MAINTENANCE

Brake Fluid

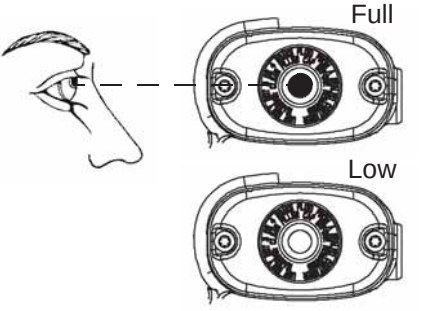
Hand Brake



The master cylinder is located on the left handlebar. Maintain the fluid level 6 mm below the top edge of the master cylinder. Do not overfill.

1. Position the vehicle on a level surface. Make sure the handlebars are straight.
2. View the fluid level through the indicator window (eye) on the top of the master cylinder.

Tip: The eye will appear dark when the fluid level is full. When fluid is low, the eye will be clear.



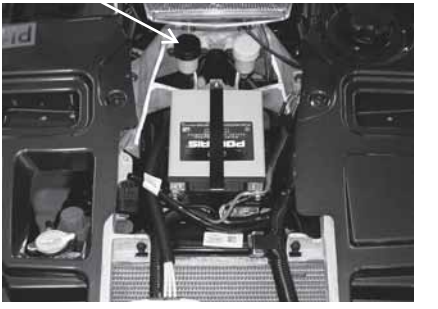
3. If the fluid level is low, remove the cover screws and add fluid to the fill line. *Do not overfill.*
4. Reinstall the cover. Torque screws to 7 in. lbs. (.8 Nm).

Foot Brake

The foot brake fluid reservoir is located under the front rack. The brake fluid reservoir cap is black.

NOTICE: Do not use ADC fluid in the brake fluid reservoir. ADC fluid will damage the rubber components of the brake system.

Brake Fluid Reservoir

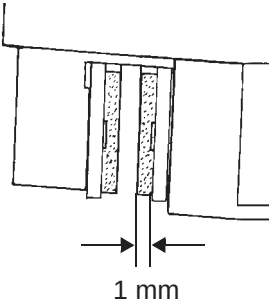


Brake Inspections

The front and rear brakes are hydraulic disc brakes, activated by applying the foot brake. The handlebar brake is also hydraulic. Both brake systems are self-adjusting.

Perform the following checks to keep the brake systems in good operating condition. Check more often if brakes are used heavily under normal operation.

1. Always keep brake fluid at an adequate level. See page 92.
2. Check the brake systems regularly for fluid leaks.
3. Check the brakes for excessive travel or spongy feel.
4. Check the friction pads for wear, damage and looseness. Replace the pads when the friction material is worn to 1 mm.



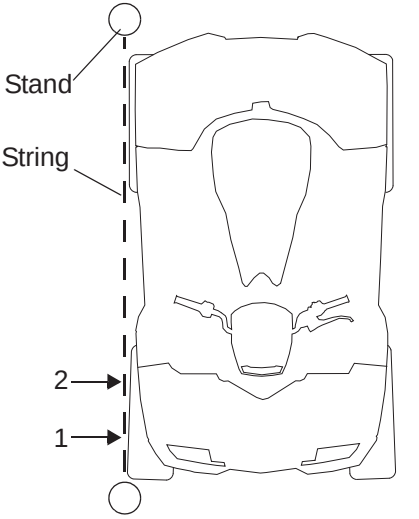
5. Check the security and surface condition of the disc. Clean any grease using a recommended brake cleaner or alcohol. Do not use spray lubricants or other petroleum-based products. If you discover any damage (cracks, excessive corrosion, warping) see your dealer for service before operating.

MAINTENANCE
Toe Alignment

Use the following procedure to check the toe alignment of the vehicle. The recommended toe alignment is 1/4-1/2 inch (6-12 mm) toe out.

⚠

Severe injury or death can result from improper toe alignment and adjustment. Do not attempt to adjust tie rod alignment. All tie rod adjustments should be performed by an authorized POLARIS dealer.



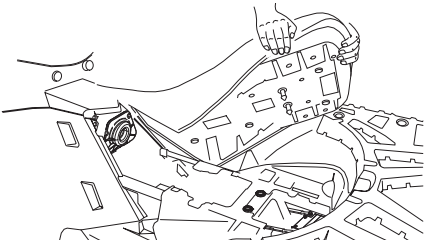
1. Position the vehicle on a level surface.
2. Place the handlebars in a straight-ahead position.
3. Tie a length of string between two stands as shown in the illustration. Position the stands so that the string is flush with the side of the rear tire. If available, you may use a long straight-edge instead of string.
4. Measure the distance from the string to the rim at the front (1) and rear (2) of the front rim. The rear measurement should be 3-6 mm more than the front measurement on each side of the vehicle to obtain the recommended 6-12 mm toe out alignment.
5. Repeat the measurement procedure on the other side of the vehicle.
6. If you discover improper alignment, see your POLARIS dealer for service.

Steering Assembly

The steering assembly should be checked periodically for loose nuts and bolts. If loose nuts and bolts are found, see your POLARIS dealer for service before operating the vehicle.

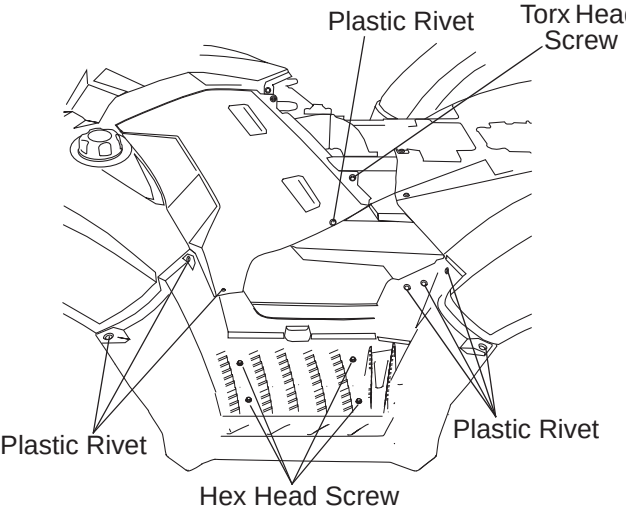
Seat Removal

1. Grasp one side of the seat near the rear edge.
2. Pull upward abruptly to disengage the under-seat fasteners.
3. Remove the seat.



Side Panel/Footwell Removal

Remove the seat before removing a side panel. Remove the screws and rivets securing the side panel or footwell (see illustration).



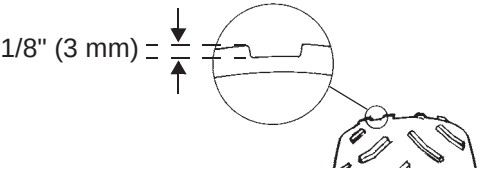
MAINTENANCE
Tires

Operating your vehicle with worn tires, improperly inflated tires, non-standard tires or improperly installed tires will affect vehicle handling and could cause an accident resulting in serious injury or death. Always follow all tire maintenance procedures as outlined in this manual and on the labels on the vehicle. Always use original equipment size and type when replacing tires.

Refer to the specifications section beginning on page 132 for recommended tire type, size and pressure.

Tire Tread Depth

Always replace tires when tread depth is worn to 1/8" (3 mm) or less.



Front Wheel Hub Tightening

Front wheel bearing tightness and spindle nut retention are critical component operations. All service must be performed by your authorized POLARIS dealer.

Wheel Removal

1. Stop the engine.
2. Place the transmission in PARK.
3. Loosen the wheel nuts slightly.

Do not service axle nuts that have a cotter pin installed. See your POLARIS dealer.

4. Elevate the side of the vehicle by placing a suitable stand under the footrest frame.
5. Remove the wheel nuts.
6. Remove the wheel.

Tires

Wheel Installation

1. Place the transmission in PARK.
2. Place the wheel on the hub with the valve stem toward the outside and rotation arrows on the tire pointing toward forward rotation (if equipped).
3. Install the wheel nuts and finger-tighten them.
4. Lower the vehicle to the ground.
5. Torque the wheel nuts to specification.

⚠

Loose nuts could cause a tire to come off during operation, which could result in an accident or overturn. Always ensure that all nuts are torqued to specification.

75 ft. lbs.
(102 Nm)

Cast Aluminum

45 ft. lbs.
(61 Nm)

Steel

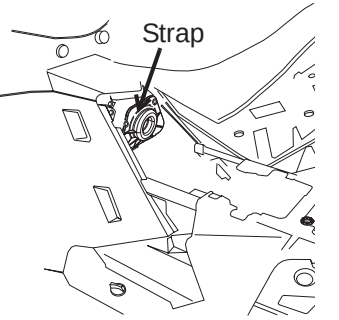
Wheel Nut Torque Specifications

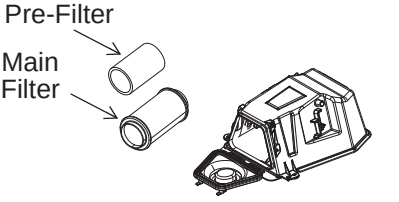
Check the wheel nut torques occasionally and when they've been loosened for maintenance service.

Wheel Type	Nut Type	Nut Torque
Aluminum	Lug Nut	75 ft. lbs. (102 Nm)
Steel	Lug Nut	45 ft. lbs. (61 Nm)

MAINTENANCE
Air Filter

1. Remove the seat.
2. Remove the air box cover strap, and remove the air box cover.
3. Remove the filter.
4. Remove the fabric type pre-filter from the main filter. Wash the pre-filter in soapy water, then rinse and let dry.
5. Reinstall the pre-filter over the main filter. Install a new main filter if needed.
6. Reinstall the filter into the air box.
7. Reinstall the air box cover and the seat.

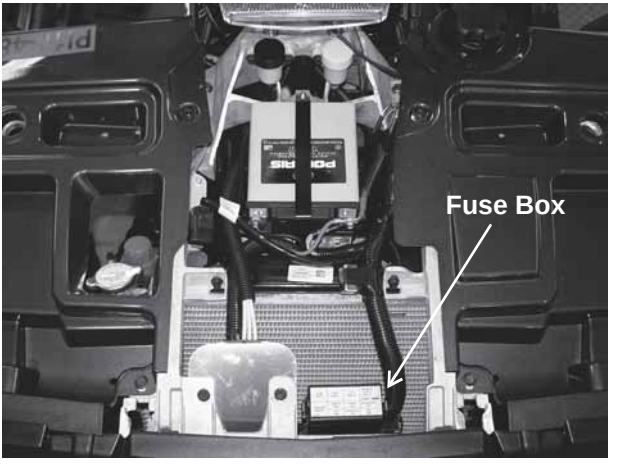




Fuse Replacement

If the engine stops or will not start, or if you experience other electrical failures, a fuse may need replacement. Locate and correct any short circuits that may have caused the blown fuse, then replace the fuse. Spare fuses are provided in the fuse box.

1. Remove the front rack.
2. Remove the fuse box cover.
3. Remove the suspect fuse from the fuse panel. If the fuse is blown, install a new fuse with the same amperage rating.
4. Reinstall the fuse box cover.
5. Reinstall the front rack.



ECU RELAY	FAN RELAY	EFI RELAY	BUMPER LIGHTS RELAY	SPARE
			WIRES ⇨	
CHASSIS RELAY	LIGHTS 20A	DRIVE 20A	ACCESSORY 20A	SPARE
	EFI 20A	UNSWITCH 10A	EPAS 30A	

7175808

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START SOLENOID RELAY	FAN RELAY	EFI RELAY	BUMPER LIGHTS RELAY	SPARE
			WIRES ⇨	
CHASSIS RELAY	LIGHTS 20A	DRIVE 20A	ACCESSORY 20A	SPARE
	EFI 20A	UNSWITCH 10A	EPAS 30A	

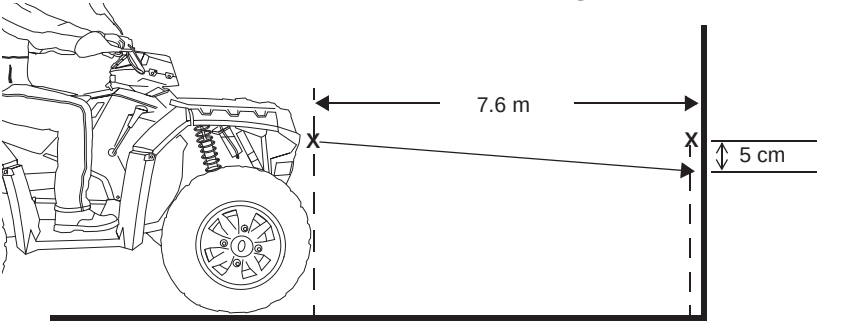
7175806

850

MAINTENANCE
Lights
Headlight Beam Adjustment

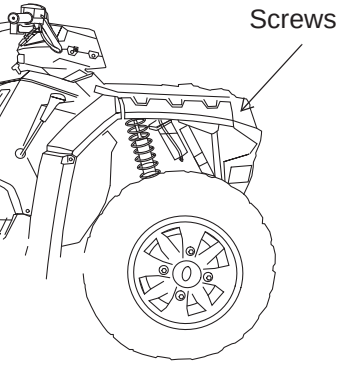
The headlight beam can be adjusted slightly upward or downward.

1. Position the vehicle on a level surface. The headlight should be approximately 7.6 m from a wall.
2. Place the transmission in PARK.
3. Measure the distance from the floor to the center of the headlight and make a mark on the wall at the same height.



NOTE: Include rider weight on the seat when measuring.

4. Start the engine.Turn the headlight switch to high beam.
5. Observe the headlight aim on the wall. The most intense part of the headlight beam should be 5 cm below the mark on the wall.
6. Tighten or loosen the three (3) headlight screws to adjust the beam upward or downward or to the left or right.



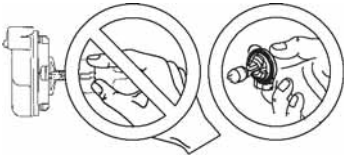
Lights

Poor lighting can result in loss of control or an accident. Lights become dirty during normal operation. Wash the headlights and taillights frequently.

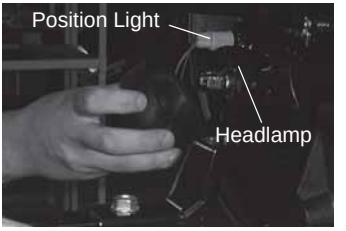
Hot components can cause serious burns to skin. Do not service the headlamps until they've cooled.

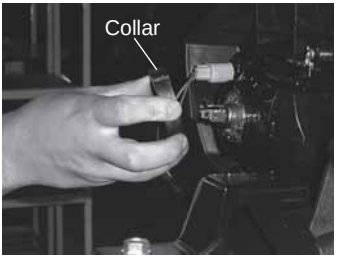
Headlight/Position Light Lamp Replacement

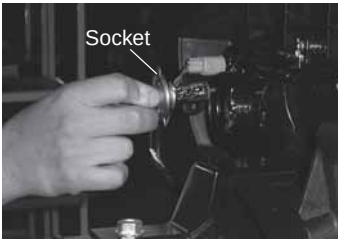
When servicing a halogen lamp, do not touch the lamp with bare fingers. Oil from your skin leaves a residue, causing a hot spot that will shorten the life of the lamp. Hold the plastic part of the lamp.



1. Place the transmission in PARK.
2. Open the front rack cover.
3. Remove the plug at the back of the headlight.
4. Pull the harness plug to disconnect it from the back of the headlight.
5. *Position light:* Rotate the socket to remove it. Go to step 6.
   Headlamp: Reach under the bumper and remove the rubber cover from the back of the headlight. Turn the collar counter-clockwise and carefully remove the collar and socket.
6. Remove the lamp. Apply dielectric grease to the socket and install a new lamp.
7. Reverse all steps to reassemble the headlight.

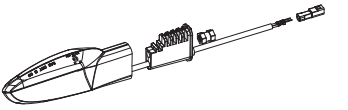




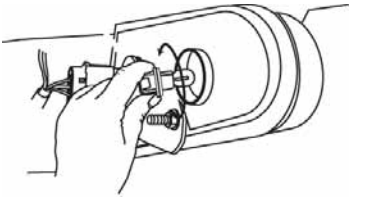


MAINTENANCE
Lights
Front Turn Signal Replacement

If a front turn signal light becomes inoperable, the lamps cannot be replaced. Replace the entire signal lamp assembly.



Rear Turn Signal Lamp Replacement

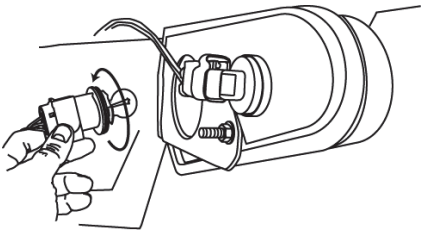


1. Place the transmission in PARK.
2. Rotate the turn signal socket counterclockwise to remove it.
3. Remove the lamp.
4. Apply dielectric grease to the socket.
5. Install the new lamp. Test the lamp for proper operation.
6. Reinstall all components in reverse order.

Lights

Taillight/Brakelight Lamp Replacement

1. Place the transmission in PARK.
2. Rotate the taillight socket counterclockwise to remove it.
3. Remove the lamp.
4. Apply dielectric grease to the socket.
5. Install the new lamp. Test the lamp for proper operation.
6. Reinstall all components in reverse order.

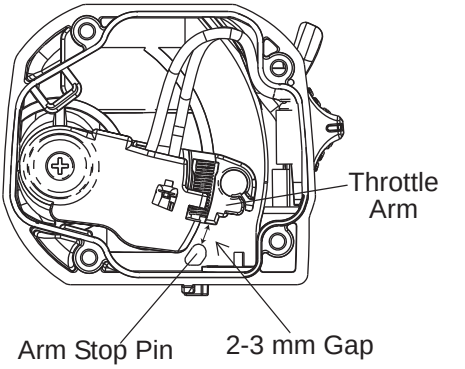


MAINTENANCE
Throttle Body/Idle RPM

Idle RPM is preset by the manufacturer. If the engine idle speed is not satisfactory, please see your POLARIS dealer for adjustment.

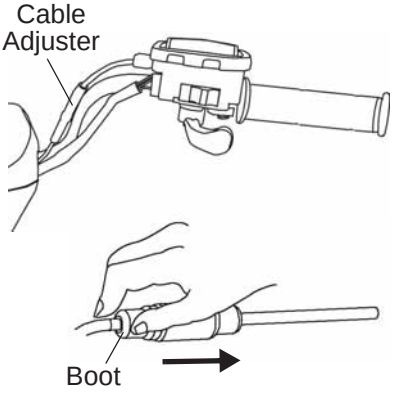
Throttle Cable Freeplay

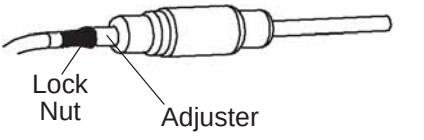
1. Remove the three cover screws from the right handlebar control and remove the cover.
2. With the handlebars straight ahead, place very light pressure on the throttle lever. A gap of 2-3 mm should be visible between the throttle arm stop pin and the throttle arm.



If adjustment is needed:

1. Locate the throttle cable adjuster. Squeeze the end of the rubber boot and slide it back far enough to expose the inline cable adjuster locknut.
2. Loosen the adjuster locknut.
3. Rotate the boot to turn the adjuster until 2-3 mm of freeplay is achieved between the stop pin and the throttle arm. *While adjusting freeplay, flip the throttle lever back and forth repeatedly.*





(continued on next page)

Throttle Cable Freeplay

4. Place the transmission in PARK.
5. Start the engine and allow the idle to stabilize. If necessary, tap the throttle lever to ensure the idle speed settles.
6. If idle speed remains above or below the recommended setting (see specification pages), verify the correct gap. If gap is correct and idle speed is still not satisfactory, please see your POLARIS dealer for service.
7. With the engine running, turn the handlebars fully to the left and right. Tap the throttle lever at each turn, verifying that idle RPM returns to the recommended setting. If idle speed increases, it may be necessary to increase the gap between the stop pin and throttle arm, but do not exceed the recommended 2-3 mm gap.
8. When adjustments are complete, tighten the locknut.
9. Squeeze the end of the rubber boot and slide it over the cable adjuster to its original position.
10. Ensure the control cover seal is in place, then reinstall the cover and screws.

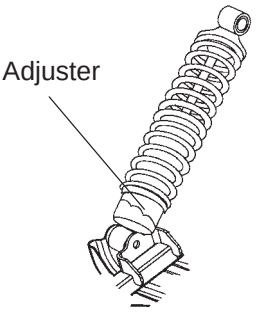
MAINTENANCE

Camber and Caster

The camber and caster are non-adjustable.

Front and Rear Springs

The front and rear shock absorber springs are adjusted by rotating the adjuster either clockwise or counterclockwise to increase or decrease spring tension. Accessory springs are available through your POLARIS dealer.



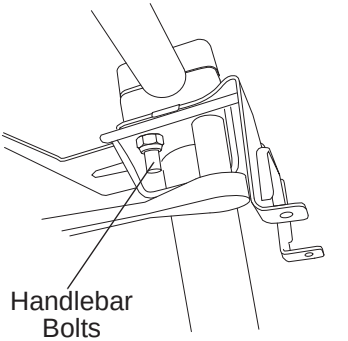
Handlebars

The handlebars can be adjusted for rider preference.

⚠

Improper adjustment of the handlebars or incorrect torquing of the adjuster block tightening bolts can cause limited steering or loosening of the handlebars, resulting in loss of control and serious injury or death. Follow the adjustment procedures exactly, or see your POLARIS dealer for service.

1. Remove the upper headlight pod.
2. Loosen the four handlebar bolts.
3. Adjust the handlebar to the desired height. Be sure the handlebars do not contact the gas tank or any other part of the machine when turned fully to the left or right.
4. Torque the front two bolts to 10-12 ft. lbs. (14-17 Nm), then torque the rear two bolts. A gap of up to 1/8" (3 mm) will remain at the rear of the clamp blocks.
5.



Spark Plugs

Spark Plug Recommendations

Refer to the specifications section beginning on page 132 for the recommended spark plug type and gap for your vehicle. Torque spark plugs to specification.

NOTICE: Using non-recommended spark plugs can result in serious engine damage. Always use POLARIS-recommended spark plugs.

Plug Condition	Torque Specification	
	550	850
New Spark Plug	9-11 ft. lbs. (12-15 Nm)	18-20 ft. lbs. (24-27 Nm)
Previously Installed Spark Plug	17-20 ft. lbs. (23-27 Nm)	18-20 ft. lbs. (24-27 Nm)

Spark Plug Inspection

Spark plug condition is indicative of engine operation. Check the spark plug firing end condition after the engine has been warmed up and the vehicle has been driven at higher speeds. Immediately check the spark plugs for correct color. See page 108.

⚠

A hot exhaust system and engine can cause burns. Wear protective gloves when removing a spark plug for inspection.

1. Rotate the spark plug cap 1/4 turn and pull it off the spark plug.
2. Rotate the spark plug counterclockwise to remove it.
3. Reverse the procedure for spark plug installation. Torque to specification.

MAINTENANCE
Spark Plugs
Spark Plug Inspection
Normal Spark Plug

The normal insulator tip is gray, tan or light brown. There will be few combustion deposits. The electrodes are not burned or eroded. This indicates the proper type and heat range for the engine and the service.

The tip should not be flaky and white. A white insulator tip indicates overheating, caused by use of an improper spark plug or incorrect fuel.

Wet Fouled Spark Plug

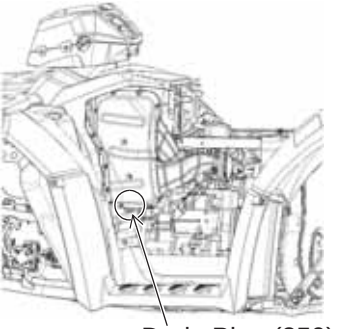
The wet fouled insulator tip is black. A damp oil film covers the firing end. There may be a carbon layer over the entire nose. Generally, the electrodes are not worn. General causes of fouling are excessive oil, use of non-recommended oil or incorrect throttle body adjustments.

Vehicle Immersion

If your vehicle becomes immersed, major engine damage can result if the machine is not thoroughly inspected. Take the vehicle to your dealer before starting the engine. If it's impossible to take your vehicle to a dealer before starting it, follow the steps outlined below.

1. Move the vehicle to dry land or at the very least, to water below the footrests.
2. Check the air box. If water is present, dry the air box and replace the filter with a new filter. If equipped, remove the air box drain plug to drain water. Make sure the E-ring is on the drain plug and reinstall the drain plug.

NOTICE: Serious damage could occur if the air box drain plug is not reinstalled and tightened properly.


Drain Plug (850)

3. Remove the spark plugs.
4. Turn the engine over several times using the electric start.
5. Dry the spark plugs. Reinstall the plugs or install new plugs.
6. Attempt to start the engine. If necessary, repeat the drying procedure.
7. Take the vehicle to your dealer for service as soon as possible, whether you succeed in starting it or not.
8. If water has been ingested into the PVT, follow the procedure on page 113 for drying out the PVT.

MAINTENANCE
Spark Arrester

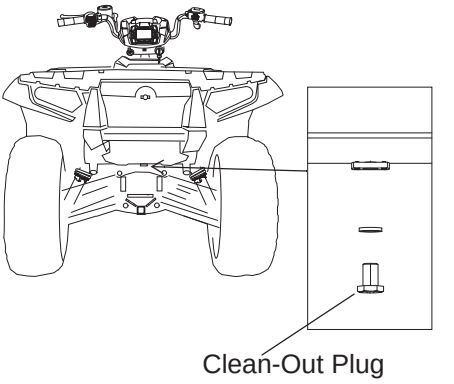
⚠

Failure to heed the following warnings while servicing the spark arrester could result in serious injury or death. Never run the engine in an enclosed area. Remove any combustible materials from the area. Wear eye protection and leather work gloves. Do not stand behind or in front of the vehicle while purging. Never go under the vehicle while it's inclined.

The exhaust system can get extremely hot. Do not perform service on the spark arrester while the system is hot. Allow components to cool sufficiently before proceeding.

Use the following procedure to periodically purge accumulated carbon from the exhaust pipe/muffler.

1. Remove the arrester clean-out plug from the bottom of the muffler.
2. Place the transmission in PARK.
3. Start the engine.
4. Quickly squeeze and release the throttle lever several times to purge carbon from the system.
5. If carbon comes out of the exhaust, cover or plug the exhaust outlet(s). Wear protective gloves.



6. Lightly tap on the exhaust pipe with a rubber mallet while repeating step 4.
7. If particles are still suspected to be in the muffler, elevate the rear of the vehicle one foot (30 cm) higher than the front. Block the wheels.
8. Place the transmission in PARK. Repeat steps 4 to 6 until no more particles are expelled.
9. Stop the engine. Allow the arrester to cool.
10. Reinstall the arrester clean-out plug and remove the exhaust outlet cover or plug.

PVT System

Failure to comply with the instructions in this warning can result in severe injury or death.

Do not modify any component of the PVT system. Doing so may reduce its strength so that a failure may occur at a high speed. The PVT system has been precision balanced. Any modification will cause the system to be out of balance, creating vibration and additional loads on components.

The PVT system rotates at high speeds, creating large amounts of force on clutch components. Extensive engineering and testing has been conducted to ensure the safety of this product. However, as the owner, you have the following responsibilities to make sure this system remains safe:

- Always follow all recommended maintenance procedures. Always look for and remove debris inside and around the clutch and vent system when replacing the belt.
- See your dealer as outlined in the owner's manual.
- This PVT system is intended for use on POLARIS products only. Do not install it in any other product.
- Always make sure the PVT housing is securely in place during operation.

MAINTENANCE
PVT System

The basic operation of the POLARIS PVT system is dependent on engine speed and vehicle torque requirements. As engine speed increases, the force exerted on the movable drive sheave by the flyweights also increases. This, in turn, increases the amount of pinch applied to the drive belt. Similarly, if the engine speed decreases, the amount of centrifugal force decreases, reducing the amount of belt pinch.

The approximate gear ratio difference between high and low range is 1:2.25. This difference in gearing affects the operation of the PVT, especially at speeds less than 7 MPH (11 km/h), due to the system's dependence on engine speed.

For example, when operating at a ground speed of 3 MPH (5 km/h) in low range, the engine speed would be around 3000 RPM. This is well above the engagement speed of 1600 - 1800 RPM. However, in high range at 3 MPH (5 km/h), the engine would be running at only 1500 RPM. Whenever operating this close to the engagement speed, the engine may be running at a speed too low to provide the pinch needed to prevent belt slip. Belt slip is responsible for creating the excessive heat that destroys belts, wears clutch components and causes outer clutch covers to fail.

The air temperature in the clutch cover is substantially reduced by using low range while operating at low ground speeds. Reducing the temperature inside the clutch cover greatly extends the life of the PVT components (belt, cover, etc.).

PVT System

When To Use Low Range and High Range

Condition	Range to Use
Operating at speeds less than 7 MPH (11 km/h)	Low
Towing heavy loads	Low
Operating in rough terrain (swamps, mountains, etc.)	Low
Operating at speeds greater than 7 MPH (11 km/h)	High

PVT Drying

There may be some instances when water is accidently ingested into the PVT system. Use the following instructions to dry it out before operating.

1. Position the vehicle on a level surface.
2. Remove the drain plug. Allow the water to drain completely. Reinstall the drain plug.
3. Start the engine. Place the transmission in PARK.
4. Apply varying throttle for 10-15 seconds to expel the moisture and air-dry the belt and clutches. Do not hold the throttle wide open for more than 10 seconds.
5. Allow the engine RPM to settle to idle speed, then shift the transmission to the lowest available range.
6. Test for belt slippage. If the belt slips, repeat the process.
7. Take the vehicle to your dealer for service as soon as possible.

MAINTENANCE
Battery

Improperly connecting or disconnecting battery cables can result in an explosion and cause serious injury or death. When removing the battery, always disconnect the negative (black) cable first. When reinstalling the battery, always connect the negative (black) cable last.

Battery electrolyte is poisonous. It contains sulfuric acid. Serious burns can result from contact with skin, eyes or clothing.

Antidote:

External: Flush with water.

Internal: Drink large quantities of water or milk. Follow with milk of magnesia, beaten egg, or vegetable oil. Call physician immediately.

Eyes: Flush with water for 15 minutes and get prompt medical attention.

Batteries produce explosive gases. Keep sparks, flame, cigarettes, etc. away. Ventilate when charging or using in an enclosed space. Always shield eyes when working near batteries. KEEP OUT OF REACH OF CHILDREN.

Your vehicle may have either a sealed battery, which requires little maintenance, or a conventional battery. A sealed battery can be identified by its flat covers on the top of the battery. A conventional battery has six filler caps on the top of the battery.

Always keep battery terminals and connections free of corrosion. If cleaning is necessary, remove corrosion with a stiff wire brush. Wash with a solution of one tablespoon baking soda and one cup water. Rinse well with tap water and dry off with clean shop towels. Coat the terminals with dielectric grease or petroleum jelly. Be careful not to allow cleaning solution or tap water into a conventional battery.

Battery

Battery Removal

1. Remove the seat.
2. Disconnect the black (negative) battery cable first.
3. Disconnect the red (positive) battery cable last.
4. Disconnect the battery hold-down strap.
5. On conventional batteries, remove the battery vent tube.
6. Lift the battery out of the vehicle. Be careful not to tip a conventional battery sideways, which could spill electrolyte.

NOTICE: If electrolyte spills, immediately wash it off with a solution of one tablespoon baking soda and one cup water to prevent damage to the vehicle.

MAINTENANCE

Battery

Battery Installation

Using a new battery that has not been fully charged can damage the battery and result in a shorter life. It can also hinder vehicle performance. Follow the battery charging instructions on page 118 before installing the battery.

If your factory-installed 18 AH battery cannot maintain a charge because of operation in extreme cold or with multiple electrical accessories, please see your POLARIS dealer to purchase a 30 AH battery. Before installing the 30 AH battery, remove the plastic spacer at the bottom of the battery compartment. Save the spacer for future use.

1. Ensure that the battery is fully charged.
2. Place the battery in the battery holder.
3. With conventional batteries, install the battery vent tube (sealed batteries do not have a vent tube). The vent tube must be free of obstructions and securely installed. Route the tube away from the frame and vehicle body to prevent contact with electrolyte.

Battery gases could accumulate in an improperly installed vent tube and cause an explosion, resulting in serious injury or death. Always ensure that the vent tube is free of obstructions and is securely installed as recommended.

4. On conventional batteries, coat the terminals with dielectric grease or petroleum jelly.
5. Secure the battery hold-down strap.
6. Connect and tighten the red (positive) cable first.
7. Connect and tighten the black (negative) cable last.
8. Verify that cables are properly routed. Cables should be safely tucked away at the front and rear of the battery.
9. Install the seat.

Battery

Battery Storage

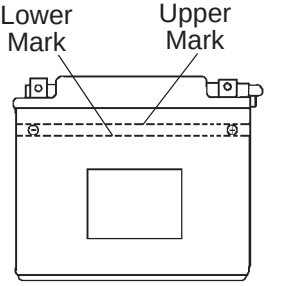
Whenever the vehicle is not used for a period of three months or more, remove the battery from the vehicle, ensure that it's fully charged, and store it out of the sun in a cool, dry place. Check battery voltage each month during storage and recharge as needed to maintain a full charge.

POLARIS recommends maintaining battery charge by using a POLARIS Battery Tender charger or by charging about once a month to make up for normal self-discharge. Battery Tender can be left connected during the storage period, and will automatically charge the battery if the voltage drops below a pre-determined point. See page 131 for the part numbers of POLARIS products.

Battery Fluid (Conventional Battery)

A poorly maintained battery will deteriorate rapidly. Check the battery fluid level often. Maintain the fluid level between the upper and lower level marks.

Add only distilled water. Tap water contains minerals that are harmful to a battery.



MAINTENANCE

Battery

Battery Charging (Conventional Battery)

1. Remove the battery from the vehicle to prevent damage from leaking or spilled electrolyte during charging. See page 115.
2. Charge the battery with a charging output no larger than 1/10 of the battery's amp/hr rating. Charge as needed to raise the specific gravity to 1.270 or greater.
3. Reinstall the battery. See page 116. Make sure the positive terminal polarity is properly connected.

Battery Charging (Sealed Battery)

The following battery charging instructions apply only to the installation of a sealed battery. Read all instructions before proceeding with the installation of this battery.

The sealed battery is already filled with electrolyte and has been sealed and *fully charged* at the factory. *Never* pry the sealing strip off or add any other fluid to this battery.

The single most important thing about maintaining a sealed battery is to keep it fully charged. Since the battery is sealed and the sealing strip cannot be removed, you must use a voltmeter or multimeter to measure DC voltage.

An overheated battery may explode, causing severe injury or death. Always watch charging times carefully. Stop charging if the battery becomes very warm to the touch. Allow it to cool before resuming charging.

For a refresh charge, follow all instructions carefully.

1. The battery should be disconnected from a load or charger for at least two hours before checking voltage. Check the battery voltage with a voltmeter or multimeter. A fully charged battery will register 12.8 V or higher.
2. If the voltage is less than 12.8 volts, recharge the battery at 1.2 amps or less until battery voltage is 12.8 or greater.
3. When using an automatic charger, refer to the charger manufacturer's instructions for recharging. When using a constant current charger, use the guidelines on the next page for recharging.

Battery

Battery Charging (Sealed Battery)

Always verify battery condition before and 1-2 hours after the end of charging.

State of Charge	Voltage	Action	Charge Time (Using constant current charger @ standard amps specified on top of battery)
100%	12.8-13.0 volts	None, check at 3 mos. from date of manufacture	None required
75%-100%	12.5-12.8 volts	May need slight charge, if no charge given, check in 3 months	3-6 hours
50%-75%	12.0-12.5 volts	Needs charge	5-11 hours
25%-50%	11.5-12.0 volts	Needs charge	At least 13 hours, verify state of charge
0%-25%	11.5 volts or less	Needs charge with desulfating charger	At least 20 hours

MAINTENANCE
Cleaning and Storage
Washing the Vehicle

Keeping your POLARIS vehicle clean will not only improve its appearance but it can also extend the life of various components.

NOTICE: High water pressure may damage components. POLARIS recommends washing the vehicle by hand or with a garden hose, using mild soap.

Certain products, including insect repellents and chemicals, will damage plastic surfaces. Do not allow these types of products to contact the vehicle.

The best and safest way to clean your POLARIS vehicle is with a garden hose and a pail of mild soap and water.

1. Use a professional-type washing cloth, cleaning the upper body first and the lower parts last.
2. Rinse with clean water frequently.
3. Dry surfaces with a chamois to prevent water spots.

Washing Tips

- Avoid the use of harsh cleaners, which can scratch the finish.
- Do not use a power washer to clean the vehicle.
- Do not use medium to heavy duty compounds on the finish.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.

Cleaning and Storage

Washing the Vehicle

If a high pressure water system is used for cleaning (not recommended), exercise extreme caution. The water may damage components and could remove paint and labels. Avoid directing the water stream at the following items:

- Wheel bearings
- Radiator
- Transmission seals
- Cab and body panels
- Electrical components
- Switches and controls
- Fuel system components
- Labels and decals

If an informational or graphic label becomes illegible or comes off, contact your POLARIS dealer to purchase a replacement. Replacement *safety* labels are provided by POLARIS at no charge.

Grease all zerk fittings immediately after washing. Allow the engine to run for a while to evaporate any water that may have entered the engine or exhaust system.

Polishing the Vehicle

POLARIS recommends the use of common household aerosol furniture polish for polishing the finish on your POLARIS vehicle. Follow the instructions on the container.

Polishing Tips

- Avoid the use of automotive products, some of which can scratch the finish of your vehicle.
- Always use clean cloths and pads for cleaning and polishing. Old or reused cloths and pads may contain dirt particles that will scratch the finish.

MAINTENANCE
Cleaning and Storage
Chrome Wheel Care (if equipped)

Proper maintenance will protect chrome wheels from corrosion, preserve wheel life and ensure a "like new" appearance for many years. Chrome wheels exposed to road salt (or salt in the air in coastal areas) are more susceptible to corrosion if not properly cleaned. Clean chrome wheels more often if they're exposed to salt or other corrosive elements.

1. Wash chrome wheels frequently. Use a mild detergent. Never use abrasive cleaners on plated or painted surfaces.
2. Rinse well with clear water. Soap, detergents, salt, dirt, mud and other elements can cause corrosion.
3. Polish the clean chrome wheels periodically. Use an automotive grade chrome polish.
4. Routinely and liberally apply a weather resistant wax to each polished chrome wheel. Choose a product suitable for chrome finishes. Read and follow the product labels and instructions.

Removing Corrosion

If light rust is found on the chrome finish, use steel wool (#0000-OTT grade) to remove it. Gently rub the affected areas with the steel wool until the corrosion has been removed. Clean and polish the wheel as outlined above.

Cleaning and Storage

Storage Tips

NOTICE: Starting the engine during the storage period will disturb the protective film created by fogging and damage could occur. Never start the engine during the storage period.

Clean the Exterior

Make any necessary repairs and then clean the vehicle as recommended. See page 120.

Stabilize the Fuel

1. Fill the fuel tank.
2. Add POLARIS Carbon Clean Fuel Treatment or POLARIS Fuel Stabilizer. Follow the instructions on the container for the recommended amount. Carbon Clean removes water from fuel systems, stabilizes fuel and removes carbon deposits from pistons, rings, valves and exhaust systems.
3. Allow the engine to run for 15-20 minutes to allow the stabilizer to disperse through the entire fuel delivery system.

Oil and Filter

Change the oil and filter. See page 80.

Air Filter / Air Box

1. Inspect and clean (or replace) the pre-cleaner and air filter.
2. Clean the air box.

MAINTENANCE
Cleaning and Storage
Storage Tips
Fluid Levels

Inspect the following fluid levels. Change fluids as recommended in the Periodic Maintenance Chart beginning on page 74.

- Demand drive unit (front gearcase)
- ADC fluid (ADC models) (change every two years)
- Rear gearcase
- Transmission
- Brake fluid (change every two years and any time the fluid looks dark or contaminated)
- Coolant (test strength)

Fog the Engine

1. Treat the fuel system with POLARIS Carbon Clean, following the instructions on the container. Run the engine for several minutes so the Carbon Clean reaches the injectors. Stop the engine.
2. Remove the spark plugs and add 2-3 tablespoons of engine oil. To access the plug holes, use a section of clear 1/4" hose and a small plastic squeeze bottle filled with the pre-measured amount of oil.
3. Reinstall the spark plugs. Torque to specification.
4. Apply dielectric grease to the inside of each spark plug cap and reinstall the caps onto the plugs.
5. Turn the engine over several times using electric start. Oil will be forced in and around the piston rings and ring lands, coating the cylinder with a protective film of fresh oil.
6. If POLARIS fuel system additive is not used, the fuel tank, fuel lines, and injectors should be completely drained of gasoline.

Cleaning and Storage

Storage Tips

Inspect and Lubricate

Inspect all cables and lubricate all areas of the vehicle as recommended in the Periodic Maintenance Chart beginning on page 74.

Battery Maintenance

Remove the battery and recharge it as outlined on page 118. Store the battery in a cool, dry place.

Storage Area/Covers

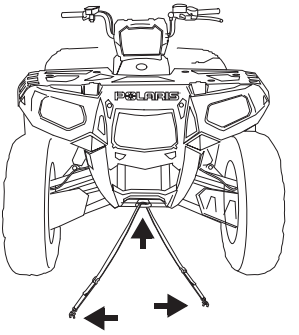
Set the tire pressure and safely support the vehicle with the tires slightly off the ground. Be sure the storage area is well ventilated. Cover the vehicle with a genuine POLARIS cover. Do not use plastic or coated materials. They do not allow enough ventilation to prevent condensation, and may promote corrosion and oxidation.

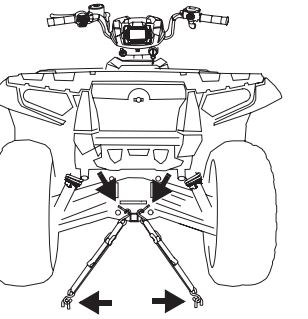
Accessories

Auxiliary power outlets provide 12-volt power for operating accessories. Accessory outlets are available for all models. POLARIS also has a wide range of additional accessories available for your vehicle. Always install accessories that are approved by POLARIS for use on this vehicle.

MAINTENANCE
Transporting the Vehicle

1. Stop the engine.
2. Place the transmission in PARK.
3. Secure the fuel cap, oil cap and seat.
4. Always tie the frame of the vehicle to the transporting unit securely with suitable straps or rope. Do not attach tie straps to the front A-arm bolt pockets, racks or handlebars.
5. Remove the key to prevent loss during transporting.





Drive Belt Wear/Burn

Possible Cause	Solution
Driving onto a pickup or tall trailer in high range	Use low range during loading.
Starting out going up a steep incline	Use low range or turn around using the K-turn (see page 56).
Driving at low RPM or ground speed (3-7 MPH)	Drive at a higher speed or use low range more frequently. See page 113.
Insufficient warm-up at low ambient temperatures	Warm the engine at least 5 minutes. With the transmission in neutral, advance the throttle to about 1/8 throttle in short bursts, 5 to 7 times. The belt will become more flexible and prevent belt burning.
Slow/easy clutch engagement	Use the throttle quickly and effectively.
Towing/pushing at low RPM/low ground speed	Use low range only.
Utility use/plowing	Use low range only.
Stuck in mud or snow	Shift the transmission to low range and carefully use fast, aggressive throttle application to engage clutch. **WARNING!** Excessive throttle may cause loss of control and vehicle overturn.
Climbing over large objects from a stopped position	Shift the transmission to low range and carefully use fast, brief, aggressive throttle application to engage clutch. **WARNING!** Excessive throttle may cause loss of control and vehicle overturn.
Belt slippage from water or snow ingestion into the PVT system	Dry out the PVT. See page 113. Inspect clutch seals for damage if repeated leaking occurs.
Clutch malfunction	See your POLARIS dealer.
Poor engine performance	Check for fouled plugs or foreign material in gas tank or fuel lines. See your dealer.
Slippage from failure to warm up belt	Always warm up the belt by operating below 30 mph for one mile (5 miles or more when temperature is below freezing).
Wrong or missing belt	Install the recommended belt.
Improper break-in	Always break in a new belt and/or clutch. See page 43.

TROUBLESHOOTING

Engine Doesn't Turn Over

Possible Cause	Solution
Low battery voltage	Recharge the battery to 12.8 VDC
Loose battery connections	Check all connections and tighten
Loose solenoid connections	Check all connections and tighten

Engine Turns Over, Fails to Start

Possible Cause	Solution
Out of fuel	Refuel, cycle key to ON position three times for 5 seconds each, then start
Clogged fuel filter	See your dealer
Water is present in fuel	Drain the fuel system and refuel
Old or non-recommended fuel	Replace with fresh recommended fuel
Fouled or defective spark plugs	Inspect plugs and replace if necessary
No spark to spark plug	Inspect plugs, verify stop switch is on
Water or fuel in crankcase	Immediately see your POLARIS dealer
Low battery voltage	Recharge the battery to 12.8 VDC
Mechanical failure	See your dealer

Engine Backfires

Possible Cause	Solution
Weak spark from spark plug	Inspect, clean and/or replace spark plugs
Incorrect spark plug gap or heat range	Set gap to specs or replace plugs
Old or non-recommended fuel	Replace with fresh recommended fuel
Incorrectly installed spark plug wires	See your dealer
Incorrect ignition timing	See your dealer
Mechanical failure	See your dealer
Loose ignition connections	Check all connections and tighten
Water present in fuel	Replace with fresh recommended fuel

Engine Pings or Knocks

Possible Cause	Solution
Poor quality or low octane fuel	Replace with recommended fuel
Incorrect ignition timing	See your dealer
Incorrect spark plug gap or heat range	Set gap to specs or replace plugs

Engine Runs Irregularly, Stalls or Misfires

Possible Cause	Solution
Fouled or defective spark plugs	Inspect, clean and/or replace spark plugs
Worn or defective spark plug wires	See your dealer
Incorrect spark plug gap or heat range	Set gap to specs or replace plugs
Loose ignition connections	Check all connections and tighten
Water present in fuel	Replace with new fuel
Low battery voltage	Recharge battery to 12.8 VDC
Kinked or plugged fuel tank vent line	Inspect and replace
Incorrect fuel	Replace with recommended fuel
Clogged air filter	Inspect and clean or replace
Reverse speed limiter malfunction	See your dealer
Electronic throttle control malfunction	See your dealer
Other mechanical failure	See your dealer
Possible Lean Fuel Cause	**Solution**
Low or contaminated fuel	Add or change fuel, clean the fuel system
Kinked or plugged fuel tank vent line	Inspect and replace
Low octane fuel	Replace with recommended fuel
Clogged fuel filter	See your dealer
Incorrect fuel	Replace with recommended fuel
Possible Rich Fuel Cause	**Solution**
Fuel is very high octane	Replace with lower octane fuel
Stopping/starting without adequate warm-up	Allow engine to warm up before operating and/or stopping
Incorrect fuel	Replace with recommended fuel
Clogged air filter	Inspect and clean or replace

TROUBLESHOOTING

Engine Stops or Loses Power

Possible Cause	Solution
Out of fuel	Refuel, cycle key to ON position three times for 5 seconds each, then start
Kinked or plugged fuel vent line	Inspect and replace
Water is present in fuel	Replace with new fuel
Fouled or defective spark plugs	Inspect, clean and/or replace spark plug
Worn or defective spark plug wires	See your dealer
Incorrect spark plug gap or heat range	Set gap to specs or replace plug
Loose ignition connections	Check all connections and tighten
Low battery voltage	Recharge the battery to 12.8 VDC
Incorrect fuel	Replace with fresh recommended fuel
Clogged air filter	Inspect and clean or replace
Reverse speed limiter malfunction	See your dealer
Electronic throttle control malfunction	See your dealer
Other mechanical failure	See your dealer
Overheated engine	Clean radiator screen and core, clean engine exterior, see your dealer

Engine Overheating

Possible Cause	Solution
Debris lodged in screen	Clean the screen.
Plugged Radiator	Use a garden hose to flush any debris from the radiator fins. NOTE: High pressure washers can deform the radiator fins and reduce cooling efficiency.

POLARIS PRODUCTS

Part Number	Description
	Engine Lubricant
2870791	Fogging Oil (12 oz. Aerosol)
2876244	PS-4 Full Synthetic 5W-50 4-Cycle Oil (qt./.95 l)
2876245	PS-4 Full Synthetic 5W-50 4-Cycle Oil (gal./3.8 l)
	Gearcase / Transmission Lubricants
2878068	AGL Full Synthetic Gearcase Lubricant & Transmission Fluid (qt./.95 l)
2878069	AGL Full Synthetic Gearcase Lubricant & Transmission Fluid (gal./3.8 l)
2877922	Demand Drive Fluid (qt./.95 l)
2877923	Demand Drive Fluid (gal./3.8 l)
2870465	Pump for Gallon (3.8 l) Jug
	Coolant
2871534	Polaris Antifreeze 60/40 Premix (qt./.95 l)
2871323	Polaris Antifreeze 60/40 Premix (gal./3.8 l)
	Grease / Specialized Lubricants
2871312	Grease Gun Kit, All Season Grease
2871322	All Season Grease (3 oz./89 ml cartridge)
2871423	All Season Grease (14 oz./414 ml cartridge)
2876160	ATV Angle Drive Fluid (qt./.95 l)
2872276	ATV Angle Drive Fluid (2.5 gal./9.5 l)
2871460	Premium Starter Grease
2871515	U-Joint Grease (3 oz./89 ml cartridge)
2871551	U-Joint Grease (14 oz./414 ml cartridge)
2871329	Dielectric Grease (Nyogel™)
	Additives / Miscellaneous
2871326	Carbon Clean
2870652	Fuel Stabilizer
2872189	DOT 4 Brake Fluid
2871956	Loctite™ 565 Thread Sealant
2859044	POLARIS Battery Tender™ Charger

SPECIFICATIONS

SPORTSMAN Forest 550	
Maximum Weight Load Capacity	575 lbs. (261 kg)
Dry Weight	342 kg +/- 7 % , based on configuration
Fuel Capacity	5.25 gal. (20 l)
Engine Oil Capacity	2 qts. (1.9 l)
Coolant Capacity	2 qts. (1.9 l)
Rear Gearcase Oil Capacity	7.1 oz. (210 ml)
Demand Drive Fluid Capacity	9.3 oz. (275 ml)
Transmission Oil Capacity	37 oz. (1100 ml)
Front Rack/Storage Box Capacity	120 lbs. (54 kg)
Rear Rack Capacity	240 lbs. (109 kg)
Unbraked Trailer Towing Capacity*	1786 lbs. (810 kg)
Overall Length	83.25 in. (211 cm)
Overall Width	47.6 in. (121 cm)
Overall Height	50.75 in. (129 cm)
Wheelbase	53 in. (134.6 cm)
Ground Clearance	11.6 in. (29.5 cm)
Minimum Turning Radius	84 in. (213 cm) unloaded
Engine	ES550PLE 4-Stroke (Low Torque Capacity)
Displacement	549.7 cc
Engine Power	30 kW
Bore x Stroke	96.6 x 75
Alternator Output	490w @ 1350 RPM/Peak 630w
Compression Ratio	9.6:1
Starting System	Electric
Ignition System	Electronic Fuel Injection
Idle RPM	1425 +/- 50
Ignition Timing	13 +/- 3 BTDC @ 1350 RPM, Engine warm
Spark Plug / Gap	NGK BKR6E / .035 in. (0.9 mm)
Lubrication System	Wet Sump
Seat	Single Seat, length 650 mm
Steering System	Akerman Principle, with handlebar controls
Transmission Power System	Shaft drive on all wheels
Driving System Type	Automatic PVT (POLARIS Variable Transmission)
Front Suspension	Dual a-arm with 9.2" (23 cm) travel
Rear Suspension	Progressive rate with 10.2" (26 cm) travel

* Based on EU Directive 76/432/EC

SPORTSMAN Forest 550	
Transmission and Gears	High/Low/Neutral/Reverse/Parking
Gear Reduction, Low	5.034:1
Gear Reduction, Reverse	4.508:1
Gear Reduction, High	2.693:1
Drive Ratio, Front	3.818:1
Drive Ratio, Rear	3.7:1
Tires Type Front	Off Road Style, Deep Tread Design, size 26x8-14 AT / 7 psi (48.3 kPa) Pressure
Tires Type Rear	Off Road Style, Deep Tread Design, size 26x10-14 AT / 7 psi (48.3 kPa) Pressure
Brakes, Front/Rear	Single-Control handlebar hydraulic disc on all wheels
Brakes, Auxiliary	Foot-Activated Hydraulic Disc on all wheels
Brake, Parking	Hydraulic lock on all wheels, Mechanical Lock in Park
Hitch	Rear mounting for attachment of coupling devices
Winch	Front permanent installed winch with 2500 lbs. (1125 kg) capacity
Headlight	2 Hi/Lo beam on bumper (55/60 watt)
Taillights	7 watts
Brake Light	27 watts
Instrument Cluster	Digital LCD/LED

Clutching

Altitude		Shift Weight	Drive Clutch Spring	Driven Clutch Spring	Helix*
Meters (Feet)	0-1800 (0-6000)	23-54G PN 1322914	Dark Blue PN 7043803	Red/White PN 3235088	105-165 BA3 PN 3235092
	1800-3700 (6000-12000)	23-51 PN 1322915	Dark Blue PN 7043803	Red/White PN 3235088	105-165 BA3 PN 3235092

*EBS models require no helix/spring adjustment

SPECIFICATIONS

SPORTSMAN Forest 850	
Maximum Weight Load Capacity	575 lbs. (261 kg)
Dry Weight	360 kg +/- 7 % , based on configuration
Fuel Capacity	5.25 gal. (20 l)
Engine Oil Capacity	2 qts. (1.9 l)
Coolant Capacity	2 qts. (1.9 l)
Rear Gearcase Oil Capacity	7.1 oz. (210 ml)
Demand Drive Fluid Capacity	9.3 oz. (275 ml)
Transmission Oil Capacity	37 oz. (1100 ml)
Front Rack/Storage Box Capacity	120 lbs. (54 kg)
Rear Rack Capacity	240 lbs. (109 kg)
Unbraked Trailer Towing Capacity*	1914 lbs. (868 kg)
Overall Length	83.25 in. (211 cm)
Overall Width	47.6 in. (121 cm)
Overall Height	50.75 in. (129 cm)
Wheelbase	53 in. (134.6 cm)
Ground Clearance	11.6 in. (29.5 cm)
Minimum Turning Radius	84 in. (213 cm) unloaded
Engine	EHO850LE 4-Stroke (Low Torque Capacity)
Displacement	850 cc
Engine Power	51.5 kW
Bore x Stroke	87 x 71.5
Alternator Output	475w @1200 RPM/Peak 575w
Compression Ratio	11:1
Starting System	Electric
Ignition System	Electronic Fuel Injection
Idle RPM	1200 +/- 50
Ignition Timing	6 +/- 5 BTDC @ 1200 RPM, Engine warm
Spark Plug Type / Gap	REA6MCX / .035 in. (0.9 mm)
Lubrication System	Wet Sump
Seat	Single Seat, length 650 mm
Steering System	Akerman Principle, with handlebar controls
Transmission Power System	Shaft drive on all wheels
Driving System Type	Automatic PVT (POLARIS Variable Transmission)
Front Suspension	Dual a-arm with 9.2" (23 cm) travel
Rear Suspension	Progressive rate with 10.2" (26 cm) travel

* Based on EU Directive 76/432/EC

SPORTSMAN Forest 850	
Transmission and Gears	High/Low/Neutral/Reverse/Parking
Gear Reduction, Low	5.034:1
Gear Reduction, Reverse	4.508:1
Gear Reduction, High	2.367:1
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Tires Type Front	Off Road Style, Deep Tread Design, size 26x8-14 AT / 7 psi (48.3 kPa) Pressure
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Brake, Parking	Hydraulic lock on all wheels, Mechanical Lock in Park
Hitch	Rear mounting for attachment of coupling devices
Winch	Front permanent installed winch with 2500 lbs. (1125 kg) capacity
Headlight	2 Hi/Lo beam on bumper (55/60 watt)
Taillights	7 watts
Brake Light	27 watts
Instrument Cluster	Digital LCD/LED

Clutching

Altitude		Shift Weight	Drive Clutch Spring	Driven Clutch Spring	Helix*
Meters (Feet)	0-1800 (0-6000)	24-63 PN 5632215	Red/White PN 7043349	Red/White PN 3235088	105-165 BA3 PN 3235092
	1800-3700 (6000-12000)	24-60 PN 5632216	Red/White PN 7043349	Red/White PN 3235088	105-165 BA3 PN 3235092

*EBS models require no helix/spring adjustment

WARRANTY

LIMITED WARRANTY

POLARIS Sales Inc., 2100 Highway 55, Medina, MN 55340 (POLARIS) gives a SIX MONTH LIMITED WARRANTY on all components of your POLARIS vehicle against defects in material or workmanship. POLARIS further warrants that the spark arrestor in this product will meet the efficiency requirements of USFS standard 5100-1C for at least 1000 hours when subjected to normal use and when maintenance and installation are in accordance with POLARIS recommendations.

This warranty covers parts and labor charges for repair or replacement of defective parts and begins on the date of purchase by the original retail purchaser. This warranty is transferable to another owner during the warranty period through a POLARIS dealer, but any such transfer will not extend the original term of the warranty. The duration of this warranty may vary by international region based upon local laws and regulations.

REGISTRATION

At the time of sale, the Warranty Registration Form must be completed by your dealer and submitted to POLARIS within ten days of purchase. Upon receipt of this registration, POLARIS will record the registration for warranty. No verification of registration will be sent to the purchaser as the copy of the Warranty Registration Form will be your proof of warranty coverage. If you have not signed the original registration and received the customer copy, please contact your dealer immediately. NO WARRANTY COVERAGE WILL BE ALLOWED UNLESS YOUR VEHICLE IS REGISTERED WITH POLARIS. Initial dealer preparation and set-up of your vehicle is very important in ensuring trouble-free operation. Purchasing a machine in the crate or without proper dealer set-up will void your warranty coverage.

WARRANTY COVERAGE AND EXCLUSIONS: LIMITATIONS OF WARRANTIES AND REMEDIES

This POLARIS limited warranty excludes any failures that are not caused by a defect in material or workmanship. **THIS WARRANTY DOES NOT COVER CLAIMS OF DEFECTIVE DESIGN.** This warranty also does not cover acts of God, accidental damage, normal wear and tear, abuse or improper handling. This warranty also does not cover any vehicle, component, or part that has been altered structurally, modified, neglected, improperly maintained, or used for purposes other than for which it was designed.

This warranty excludes damages or failures resulting from: improper lubrication; improper engine timing; improper fuel; surface imperfections caused by external stress, heat, cold or contamination; operator error or abuse; improper component alignment, tension, adjustment or altitude compensation; snow, water, dirt or other foreign substance ingestion/contamination; improper maintenance; modified components; use of aftermarket or unapproved components, accessories, or attachments; unauthorized repairs; or repairs made after the warranty period expires or by an unauthorized repair center.

LIMITATIONS OF WARRANTIES AND REMEDIES

This warranty excludes damages or failures caused by abuse, accident, fire, or any other cause other than a defect in materials or workmanship and provides no coverage for consumable components, general wear items, or any parts exposed to friction surfaces, stresses, environmental conditions and/or contamination for which they were not designed or not intended, including but not limited to the following items:

- Wheels and tires
- Suspension components
- Brake components
- Seat components
- Clutches and components
- Steering components
- Batteries
- Light bulbs/Sealed beam lamps
- Filter
- Lubricants
- Bushings
- Finished and unfinished surfaces
- Carburetor/Throttle body components
- Engine components
- Drive belts
- Hydraulic components and fluids
- Circuit breakers/Fuses
- Electronic components
- Spark plugs
- Sealants
- Coolants
- Bearings

Lubricants and Fluids

1. Mixing oil brands or using non-recommended oil may cause engine damage. We recommend the use of POLARIS engine oil.

2. Damage or failure resulting from the use of non-recommended lubricants or fluids is not covered by this warranty.

This warranty provides no coverage for personal loss or expense, including mileage, transportation costs, hotels, meals, shipping or handling fees, product pick-up or delivery, replacement rentals, loss of product use, loss of profits, or loss of vacation or personal time.

THE EXCLUSIVE REMEDY FOR BREACH OF THIS WARRANTY SHALL BE, AT POLARIS' OPTION, REPAIR OR REPLACEMENT OF ANY DEFECTIVE MATERIALS, COMPONENTS, OR PRODUCTS. THE REMEDIES SET FORTH IN THIS WARRANTY ARE THE ONLY REMEDIES AVAILABLE TO ANY PERSON FOR BREACH OF THIS WARRANTY. POLARIS SHALL HAVE NO LIABILITY TO ANY PERSON FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY DESCRIPTION, WHETHER ARISING OUT OF EXPRESS OR IMPLIED WARRANTY OR ANY OTHER CONTRACT, NEGLIGENCE, OR OTHER TORT OR OTHERWISE. THIS EXCLUSION OF CONSEQUENTAL, INCIDENTAL, AND SPECIAL DAMAGES IS INDEPENDENT FROM AND SHALL SURVIVE ANY FINDING THAT THE EXCLUSIVE REMEDY FAILED OF ITS ESSENTIAL PURPOSE.

THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS EXCLUDED FROM THIS LIMITED WARRANTY. ALL OTHER IMPLIED WARRANTIES (INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTY OF MERCHANTABILITY) ARE LIMITED IN DURATION TO THE ABOVE SIX MONTH WARRANTY PERIOD. POLARIS DISCLAIMS ALL EXPRESS WARRANTIES NOT STATED IN THIS WARRANTY. SOME STATES DO NOT PERMIT THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ALLOW LIMITATIONS ON THE DURATION OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU IF INCONSISTENT WITH CONTROLLING STATE LAW.

WARRANTY

HOW TO OBTAIN WARRANTY SERVICE

If your vehicle requires warranty service, you must take it to a POLARIS Servicing Dealer. When requesting warranty service you must present your copy of the Warranty Registration From to the dealer. (THE COST OF TRANSPORTATION TO AND FROM THE DEALER IS YOUR RESPONSIBILITY). POLARIS suggests that you use your original selling dealer; however, you may use any POLARIS Servicing Dealer to perform warranty service.

In the country where your product was purchased:

Warranty or Service Bulletin repairs must be done by an authorized POLARIS dealer. If you move or are traveling within the country where your product was purchased, Warranty and Service Bulletin repairs may be requested from any authorized POLARIS dealer that sells the same line as your product.

Outside the country where your product was purchased:

If you are traveling temporarily outside the country where your product was purchased, you should take your product to an authorized POLARIS dealer. You must show the dealer photo identification from the country of the selling dealer's authorized location as proof of residence. Upon residence verification, the servicing dealer will be authorized to perform the warranty repair.

If you move:

If you move to another country, be sure to contact POLARIS Customer Assistance and the customs department of the destination country before you move. Product importation rules vary considerably from country to country. You may be required to present documentation of your move to POLARIS in order to continue your warranty coverage. You may also be required to obtain documentation from POLARIS in order to register your product in your new country. You should warranty register your product at a local POLARIS dealer in your new country immediately after you move to continue your warranty coverage and to ensure that you receive information and notices regarding your vehicle.

If you purchase from a private party:

If you purchase a POLARIS product from a private party, to be kept and used outside of the country in which the product was originally purchased, all warranty coverage will be denied. You must nonetheless register your product under your name and address with a local POLARIS dealer in your country to ensure that you receive safety information and notices regarding your product.

EXPORTED PRODUCTS

EXCEPT WHERE SPECIFICALLY REQUIRED BY LAW, THERE IS NO WARRANTY OR SERVICE BULLETIN COVERAGE ON THIS PRODUCT IF IT IS SOLD OUTSIDE THE COUNTRY OF THE SELLING DEALER'S AUTHORIZED LOCATION. This policy does not apply to products that have received authorization for export from POLARIS. Dealers may not give authorization for export. You should consult an authorized dealer to determine this product's warranty or service coverage if you have any questions. This policy does not apply to products registered to government officials or military personnel on assignment outside the country of the selling dealer's authorized location. This policy does not apply to Safety Bulletins.

NOTICE

If your product is registered outside of the country where it was purchased and you have not followed the procedure set above, your product will no longer be eligible for warranty or service bulletin coverage of any kind, other than *safety* bulletins. Products registered to Government officials or military personnel on assignment outside of the country where the product was purchased will continue to be covered by the Limited Warranty.

Please work with your dealer to resolve any warranty issues. Should your dealer require any additional assistance, they will contact the appropriate person at POLARIS.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state or in different countries. If any of the above terms are void because of federal, state, local law, all other warranty terms will remain in effect.

MAINTENANCE LOG

Present this section of your manual to your dealer each time your vehicle is serviced. This will provide you and future owners with an accurate log of maintenance and services performed.

DATE	MILES (KM) OR HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

MAINTENANCE LOG

DATE	MILES (KM) OR HOURS	TECHNICIAN	SERVICE PERFORMED / COMMENTS

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Before you operate this vehicle, read the owner's manual

POLARIS®

For your nearest Polaris dealer, visit www.polaris.com

Polaris Sales Inc., 2100 Hwy 55
Medina, MN 55340

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